

PAGES

MISSING

The Educational Review.

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Editor for New Brunswick.

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Editor for Nova Scotia.

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THE EDUCATIONAL REVIEW.

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CONTENTS:

EDITORIAL—	61-63
TALKS WITH TEACHERS—	64
TEACHERS' INSTITUTES—	64-66
NATURE LESSONS—	66-68
CONTRIBUTED ARTICLES—	68-70
Notes on English—N. B. Schools of the Olden Time.	
SELECTED ARTICLES—	70-72
Unethical Teaching—How to Preserve the Eyes, etc.	
Question Department—School and College—	72-75
N. B. Normal School Papers—Book Reviews—Educational	75-78
Articles in Magazines—	
NEW ADVERTISEMENTS—	
Hall's Bookstore (p. 61)—Carter & Co. (p. 11.)	

Subscribers should promptly notify the REVIEW of change of address, giving old as well as new address. Communications from New Brunswick should be addressed EDUCATIONAL REVIEW, St. John; from Nova Scotia and Newfoundland to W. T. Kennedy, Academy, Halifax; from Prince Edward Island to J. D. Seaman, Charlottetown.

AN article on "Flags," intended for this number, is unavoidably held over.

THURSDAY, November 23rd, has been appointed Thanksgiving Day for the Dominion.

THE retirement of Sir Leonard Tilley from the office of Lt. Governor of New Brunswick has called forth many expressions of regret, showing the deserved estimation in which he is held by all classes in the province. Sir Leonard Tilley has been in public life for nearly half a century, and his unimpeachable integrity and his advocacy of all measures tending to advance the moral and material welfare of the people will cause his name to be long held in grateful recollection by the people.

THE formal opening of the new academy at Amherst, N. S., took place on Wednesday, October 4th. The proceedings were of the most interesting and enthusiastic character. Addresses were delivered by Chief Supt. MacKay, Inspector Craig, J. R. Dickey, M. P., J. McKeen, J. T. Mellish and others. The new building, which is one of the best, if not the best, in its plan and equipments in Nova Scotia, is creditable alike to the public spirit and liberality of the citizens of Amherst as well as to the energy of the Principal, Mr. E. J. Lay. The cost is somewhere

in the vicinity of \$30,000; and the contractors, Messrs. Rhodes, Curry & Co., have every reason to feel proud of their share in adding such a building to the many handsome educational structures which they have already placed in many towns and cities of Nova Scotia.

THE N. B. University extension lectures will be continued in St. John this winter, beginning the 19th of October. Two courses will be delivered before the holidays of eight lectures each—by Prof. Davidson on Political Economy and by Prof. Bailey on Zoology.

OUR EDUCATION UNSUITED TO THE MASSES.

The following paragraph from an exchange affords food for serious reflection to those who have anything to do with shaping the educational policy of the country. An overwhelming majority of our people have a deep-rooted dislike for any kind of manual labor, to escape which they struggle to obtain the so-called higher education. Is it not possible to give to the masses an education which will dignify their toil, give them higher ideals of life than mere social pre-eminence, and thereby make them more contented with life without repressing the nobler aspirations of the soul?

"Germany suffers from an intellectual over-production. All professions are over-crowded. It was fondly believed up to our days that the state had no more important task than to render the acquiring of knowledge as easy as possible, and for that purpose to establish many higher schools. But it was not asked whether there was room enough for employing men when their education was finished. Taking, for instance, the career of law in Prussia, we find that there are 1851 men who have not only passed through the gymnasium and the university, but have also served the state gratis for about five years, while the annual average demand is one hundred. There are more than seven thousand examined architects without a fixed employment, it is the same with engineers, teachers in classics, mathematics, etc. These unemployed forces are particularly attracted to the great capitals, because everyone hopes that with the many chances they offer he will find a gap into which he may jump. Men of university training are almost without exception capable only of intellectual work. If they do not succeed in their branch, they cannot become tailors or carpenters; they must take to pettifogging, giving lessons, copying, writing for inferior papers, etc. There are lawyers, physicians, doctors of philosophy, among those who are regularly relieved by the Berlin Poor Board.

All these men are, of course, discontented with the present state of things, and ready to join with those forces which hold out hope of overthrowing it. Nor are female candidates wanting in this proletariat; all those who give cheap lessons, write mediocre novels for low-class journals, or work for shops at starvation wages, are swelling the army of social revolution."

OCTOBER DAYS.

The approach of the cold season this year has been so gradual and the frosts so very light that October finds us with a brilliancy of foliage that it would be difficult for Nature to surpass, prodigal as she is and rich in effects. The beauty of the landscape is that of fairyland in these October days, when Nature seems to pause for a brief space between the busy activity of summer and the repose of winter as if to admire her own handiwork—so exquisitely perfect and restful are some of these days of parting summer.

The busiest toiler of the fields, who perhaps has scarcely lifted his eyes beyond his own acres during the summer, now allows his gaze to wander at will over valley and hillside around him.

If he is in the vicinity of some of our rich intervals with bordering hillsides, such as the St. John river presents throughout its whole course, where deciduous and evergreen trees intermingle, the picture that presents itself to him is one whose perfection of beauty will appeal to even the most ordinary and common place mind.

Standing on the edge of a field or heath on an October morning when scarcely a breeze is stirring, the onlooker of this picture of brilliant autumn tints will wonder at the matchless skill with which these colors are blended. At his feet the deep purple and red of the leaves of the blueberry and other heath plants will form with the still green grass a ground work of rare beauty. Raising the eyes to the nearest copse, the yellow and scarlet of young birch and maple will meet the eye with perhaps a group of young willows, with all the verdure of summer on their boughs, and beyond, the taller forest trees rear their uplifted heads of scarlet and green and gold, and an added beauty given to this picture is its repetition in the lake or river beneath.

JUDGE KING AND N. B. FREE SCHOOLS.

The appointment of Mr. Justice King of the Supreme Court of New Brunswick to the Supreme Court of Canada, is one that appears to have given general satisfaction. The high character of Judge King, his fine legal abilities, his intellectual force, and his oratorical talents have given him a commanding position in political and judicial circles in his native province, and these qualities will make him a prominent figure in the Supreme Court of the Dominion.

Twenty-two years ago, the Hon. Geo. E. King, then thirty-two years of age, was a member of the New Brunswick government and the framer of the present public school system of the province, which

became law in 1871. Hon. Mr. King's fearless advocacy of free schools, the ability and force with which he overcame all arguments against the measure are too well known to need repetition here. It is sufficient to say that our admirable system of free schools, which in the opinion of those qualified to judge has no superior, will stand as a monument to the ability and unflinching support of Judge King.

But Mr. King's advocacy of free schools did not end with the passage of the bill. When the N. B. school act was made the subject of attack at Ottawa, he with his colleagues came to the rescue and vigorously defended his measure in words whose soundness cannot be questioned :

"The House of Commons by asking for the disallowance of a particular Act virtually takes upon itself the power to determine what Acts of the Provincial Legislature shall be allowed; in short, it would thus make the legislature of provincial parliament subservient to the opinions of the majority of that body. To establish any such principle would be wholly destructive of the Federal Union, and would entirely destroy the independence of the Local Legislatures."

LIEUT. GOVERNOR JOHN BOYD.

The appointment of Hon. Senator Boyd to succeed Sir Leonard Tilley as governor of New Brunswick has met with general favor. Mr. Boyd has always taken such a strong interest in educational matters in the province that a short sketch of his life will be of interest to the readers of the REVIEW.

He was born in the County of Londonderry, Ireland, in the year 1826. His father died in 1831, after which his mother crossed the Atlantic, intending to settle in New York, but arriving in St. John after a passage of eleven weeks she decided, fortunately, to take up her abode in this city. The reader might apply this term *fortunately* to Mr. Boyd, as he has risen by degrees to the governorship of his adopted country; but it might with more force be applied to the City of St. John. No citizen ever entered more earnestly and with more ability and diligence into its business and industrial development than he has. No one has been more ready to extend a helping hand to others, or to aid with brain, voice and pen every worthy object that tended to advance the interests of his adopted city. And his persistent faith in the resources of the city and province, backed by a cheerful and happy way of always looking at the bright side of things, often restored heart to many a discouraged one. Instead of grumbling or waiting for "something to turn up," Mr. Boyd was hopeful and made things turn up. The "fortunately" seems in favor of the city.

For ten years Mr. Boyd was chairman of the St. John School Board. To his tact and readiness is due the healing of the differences between Protestants and Catholics, and causing the latter to accept the free schools for the education of their children. The result has proved the wisdom of the step taken by Mr. Boyd and his colleagues on the school board. Harmony has reigned where serious differences might have impaired the efficiency of the schools or imperiled their existence.

We hope Lt. Governor Boyd and Mrs. Boyd have years of happiness before them, for both have been the means of increasing, to a large extent, the happiness of others.

USEFUL KNOWLEDGE.

Cyclones and Hurricanes.—Prof. Graham Bell, of Bell telephone fame, delivered an interesting and highly instructive lecture in Baddeck lately. The subject was "Cyclones and Hurricanes." He suggests that Dalhousie or some other Maritime university should be the first to make use of the enormous mass of facts relating to the movements of the winds, atmosphere, etc., collected during the past twenty years by the weather bureau, and which are still lying unutilized, for the purpose of study. There was a large audience, which filled the court house.

Why not call on the teachers for some of this work? They may benefit themselves, their pupils and the public by constituting themselves a scientific corps—some to collect facts regarding some plant curious or injurious; others to study the habits of destructive insects; others to watch the migrations of birds; some to collect marine algæ, and others to find how the temperature of the earth is affected at various depths by the season and by the nature of the soil. There are hundreds of subjects. Become a corresponding member of the Institute of Science and your efforts will be directed, encouraged and appreciated. Why should so much energy and time be lost when it can be utilized to place the Maritime Provinces in the van of scientific research? No part of the world is so rich and varied in the products of nature, the sea, the mine and the forest. Let every teacher have a hobby, a mental safety valve, a source of recreation and happiness.

This insistence on examinations, this substitution of one of the instruments of teaching for the teaching itself, this exaltation of the means above the end is one of the evils that threatens our schools. A strict application of the marking system is little likely to encourage culture. Narrowness is more easily produced than breadth.—*Adapted.*

TALKS WITH TEACHERS.

Considerable discussion has taken place regarding the fourth clause of the new agreement as published in the last N. B. School Manual. For the benefit and information of all concerned I may explain it more at length. Let us suppose a case, say, that there are in round numbers 120 teaching days in the first term of the school year and 90 teaching days in the second term. The agreement is for \$200 for the school year, or at that rate. If the teacher teaches 120 days, or the whole of the first term, she should receive $\frac{11}{10}$ of \$200, or \$104.29 for the first term, and $\frac{3}{10}$ of \$200, or \$85.71, for the second term.

The change in the agreement has been made necessary by the unequal length of the terms of the school year, and teachers should be very careful in making contracts, lest they receive less than they expect for the present term. I fear that for the present term some confusion may arise. Some teachers have, no doubt, agreed at the rate of so much for the school term ending December 31st. In such a case I think the teacher is entitled to the full amount agreed upon, but at the same time teachers should have a care that the agreement is made according to the prescribed form, which is at the rate of so much for the school year. Both by regulation and the teacher's oath no other form of agreement is allowable.

Some trustees will not hire except at the rate of so much by the month, with the avowed intention of allowing the teachers nothing for the holidays, and to make this scheme more plausible they extend the summer vacation in order that they may only have to pay an even five or four months' salary. Some remedy should be devised for this, and such boards should be awarded their county fund in the same way.

Many school boards in poor districts do not seem clearly to understand the nature or amount of the poor aid they receive. Some are under the impression that the only advantage they receive is the $\frac{1}{4}$ or $\frac{1}{2}$ additional they receive on the county fund grant, and do not appear to comprehend that the teacher also receives $\frac{1}{4}$ or $\frac{1}{2}$ more on her government allowance, which should go to the relief of the district and should be taken into account when the agreement is made. If such a plan is not followed, the teacher obtains so much extra. Whenever the trustees do not seem aware of the nature of the poor aid, it is only fair and honorable on the part of the teachers to explain matters before signing the agreement. Some trustees find out this after the agreement is signed and then seek to have allowance made. In such a case they are powerless unless the teacher is willing.

In all cases where poor aid is given, the teachers should add it to the amount of salary mentioned in the agreement in making their returns.

Teachers in Council.

P. E. ISLAND EDUCATIONAL ASSOCIATION.

The fourteenth annual meeting of the Teachers' Association of P. E. Island was held September 27-29 in the Philharmonic Hall, Charlottetown. This convention was one of the most successful held in point of numbers attending, there being upwards of 300 teachers in attendance, and in importance of business transacted.

First Session.—Chief Superintendent of Education McLeod, President of the Association, in a few practical remarks opened the convention. After the appointment of the several committees a short discussion took place on the desirability of changing the school hours in the country districts. It was afterwards resolved to request the Board of Education to change the present hours, closing school in the summer season from 4 to 3 o'clock p. m.

Mr. J. D. Seaman introduced the EDUCATIONAL REVIEW to the attention of the teachers, requesting their aid in making it more distinctly the organ of the P. E. Island teachers by contributing to its columns and by subscribing for it.

The second session was opened by Miss Snadden, giving an account of the Summer School of Science which was held last year in Sackville. She dwelt upon the educative influence it had. Mr. Seaman followed on the same subject. He dwelt chiefly on the financial side of the question, and the subjects taught and the teachers. The importance of this school so forced itself upon the teachers that a resolution was unanimously carried authorizing the executive committee to petition the government, asking that one week more vacation be granted to those teachers who attend the School of Science than to those who do not. The school meets in Charlottetown next year.

R. W. Campbell opened the discussion on the teaching of English. He claimed that the weak point in our teaching of English was in expression. As a remedy for this he suggested that pupils should express their answers to questions in class-work in complete sentences.

In the evening a public meeting was held, Mayor Haviland presiding. It is encouraging to find our public men so interested in education. Hon. L. H. Davies gave a forcible and practical address. He impressed upon the teachers the necessity of familiarizing themselves with one another, to make themselves specialists in one subject, for that is the only way in which a man can come to the front in these days. He also urged the teachers to let no false modesty hinder them in exerting themselves for the

cause of education or in moving the masses to a sense of their duty in regard to this all-important subject.

Hon. Mr. Peters followed in a short forcible speech. He spoke words of cheer and comfort to the teachers. He said that if any one should ask, Where is the record of their labors? they could answer in the words of the epitaph of Sir Christopher Wren: "If you seek his monument, look around you."

Rev. Dr. Morrison urged the importance of an all round development. Rev. Mr. Fullerton also gave a very fine address, it being most practical and suggestive. A beautiful solo was splendidly sung by Mrs. Malcolm McLeod. Mr. Arsenault also sang a solo. Mr. Vinnicombe's orchestra filled the hall with entrancing strains. Mr. McPherson gave one of his inimitable humorous readings. Meeting dispersed by singing "Auld Lang Syne" and "God Save the Queen."

At the third session Messrs. J. R. Ross and J. D. Seaman, who lately visited the World's Fair at Chicago, addressed the convention; the remarks of Mr. Ross had reference chiefly to the educative influences of the Fair. Mr. Seaman dwelt on the educational exhibits and impressions received therefrom. He thought that the German schools, as judged by their exhibits, were the best schools in the world, and that Ontario's schools, especially those of Toronto, were the best in America.

Mr. Duncan gave a lesson on the methods of teaching proportion. Several participated in the discussion and commented very favorably on Mr. Duncan's method.

Miss Archibald gave a lesson illustrative of kindergarten instruction. Her opening remarks were explanatory of kindergarten methods. This was followed by practical work, children and the appliances being employed.

Mr. J. R. Ross made a motion to the effect that a proper training master should be appointed to the normal department of Prince of Wales College. Messrs. McIntyre, Kelly and Duncan followed in support of the motion, which was carried unanimously.

Mr. J. D. Seaman moved, asking that more suitable text-books in British history and English grammar than those now in use be prescribed by the Board of Education.—Carried unanimously.

Mr. Rielly moved "that this convention petition the Legislature to so amend the education law as to admit a representative of the Teachers' Association as a member of the Board of Education."

After discussion by Messrs. Seaman and Duncan the motion was carried.

Mr. W. T. McIntyre moved the following:

Whereas, It is in the interests of education in this province that some one interested in education should be afforded an opportunity of visiting the other portions of the continent, especially Ontario, for the purpose of studying their systems of education;

Therefore resolved, That the government be requested to delegate the Chief Superintendent of Education, or other suitable person, to study the systems of education in other parts of the continent, particularly that of Ontario, with the view of improving our present system. Expenses of such delegate to be borne by the government.—Carried unanimously.

After the election and installation of the following officers the convention closed to meet at the call of the executive.

OFFICERS.

President—R. H. Campbell, Charlottetown.
Vice-Pres. for Prince Co.—Miss Fairlie Durant, Kensington.
 " " Queens Co.—William McPhail, York.
 " " Kings Co.—R. H. McDonald, Georgetown.
Secretary-Treasurer—F. C. McLean, Charlottetown.
Recording-Secretary—Miss Leslie, Souris.
Executive Committee—Inspector Murphy, Kings.
 John McSwain, Charlottetown.
 Mr. McKinnon, Montague.
 James Landrigan, Miscouche.
 R. C. Stevenson, New Glasgow.

VICTORIA AND MADAWASKA INSTITUTE.

The fourth annual session of the above Institute was held at Grand Falls on September 28th and 29th. H. C. Henderson, B. A., the president, opened the first session at 10 a. m. on Thursday by a short address on the advantages teachers might derive from institutes. The teachers were also addressed by Inspector F. B. Meagher, M. A., who was present at each session of the Institute except the first. Interesting papers on professional subjects were read by Misses Lyon, Manzer, Hayter and Fraser, and by Messrs. Henderson, Rogers and Stephenson.

The officers for the ensuing year are H. E. Henderson, B. A., President; Miss Bessie Fraser, Vice-President; T. Rogers, Secretary-Treasurer; Miss Maxwell and Mr. White were elected on the Executive Committee.

Owing to the small number of teachers who have ever attended from Madawaska, it was thought advisable that each county should form an Institute for itself. The Victoria Institute decided to hold its next meeting at Arthurette. The most satisfactory part of the gathering was the crowded, enthusiastic public meeting in McCluskey's Hall. The speakers were the President, who occupied the chair, the Inspector, the Rev. Father O'Keefe, Rev. A. J. Lods, Councillor McCluskey and Mr. Home. The chief

subjects brought before the audience were compulsory attendance, duties of parents and difficulties of teachers. The meeting was enlivened by music and recitations.

ALBERT COUNTY INSTITUTE.

The sixteenth annual meeting of the Albert County Teachers' Institute met at Elgin on Thursday and Friday, September 21st and 22nd. About thirty-five teachers were present. The Institute opened with an address by the President, Wm. M. Burns. A carefully prepared paper on Physical Education was read by A. Weldon Colpitts. On Thursday afternoon the members paid a visit to Gordon Falls, and in the evening a public educational meeting was held, which was addressed by Mr. Rhodes, editor of the *Maple Leaf*, Inspector Steeves, Chief Supt. Dr. Inch, and Rev. Mr. Saunders. Papers were read at the sessions on Friday as follows: Idleness of Pupils, Causes and Remedies, by W. L. Dawson; Canadian History, by Miss Widlake, and a lesson was given by T. E. Colpitts on Developing the Idea of Common Measure. These papers were listened to with attention and excited considerable discussion. The Institute decided to appropriate a portion of its surplus funds to giving prizes in July for normal school entrance and junior leaving examinations. The following officers were elected: W. M. Burns, President; Miss Jane Moore, Vice-president; W. L. Dawson, Secretary-Treasurer; W. W. Wells and Miss Gaskin, additional members of the Executive.

KINGS COUNTY INSTITUTE.

The Kings County (N. B.) Teachers' Institute met at Havelock, September 14th and 15th, Mr. R. D. Hanson, of Sussex, in the chair. Nearly fifty teachers were in attendance. The following papers were read: On School Discipline, by Miss M. Frost, of Norton; Furniture and Apparatus in Ungraded Schools, by Miss A. E. Parlee, Sussex; Writing in Primary Grades, by Miss Julia J. Smith, Sussex; How to Teach Reading, by M. Colwell; On Composition, by Miss Johnston; On Parents and Teachers, by Mr. A. C. M. Lawson; First Grade Reading, by Miss Beatrice Duke.

Inspector Steeves was present, taking part in the discussions, which were of an interesting and instructive character.

The public meeting on Thursday evening was well attended and showed that the people of Havelock take an interest in the question of education. Mrs. Hanson, of Sussex, presided at the organ, and addresses were delivered by Rev. A. F. Brown, Mr. Hanson, Inspector Steeves and Mr. F. C. Alward.

On Friday afternoon the teachers paid a visit to the mineral springs in the vicinity of Havelock.

The officers were elected as follows: A. C. M. Lawson, President; Beatrice Duke, Vice-president; C. H. Perry, Secretary-Treasurer; S. L. T. McKnight and Miss M. Frost were elected to a seat with the executive.

For the Review.]

NATURE LESSONS.

No. III. OUR BIRDS.

TEACHER. Who can tell me something about birds seen since yesterday?

(Every hand up).

T. Well, I'll give the first chance to the small boys. What bird did you see?

BOY. English sparrows.

T. How many have seen the English sparrow? (Show of hands). Suppose I don't know an English sparrow from any other bird, how could you help me to find it out?

B. It is the most common little, brownish-grey bird about the house now.

T. Do any of you know why it is called the English sparrow? Has it been found only in England, I wonder?

Another B. I think I read or heard some one say that it is found all through Europe, but that in 1850 some persons in the United States got some pairs of them from England.

T. They must have increased very rapidly. Do any of you know if they are doing harm or good?

B. Some people say they are driving away our native birds, and that they eat up the farmer's grain.

Another B. They scratch the horse dung on the road and eat all the seeds in it; and I have heard a person say that since they became numerous the horses have not been troubled with bots. They suppose the sparrows eat the larvæ or chrysalis of the bots in the horse dung, so that there are very few bot-flies.

T. Very good. Anything more to be said for the sparrow?

Another B. I heard a person say that its proper name, as it is called in Europe, is the house sparrow, and that it collects principally about houses and does not interfere with small birds in the woods. That in one part of Germany they killed all the house sparrows, thinking they were doing harm. But in a few years caterpillars and other insects began to destroy so much that the people had to get the sparrows taken back again.

T. I see all of you together know more than the teacher. But now each one of us has probably got some new information. It is said the sparrows and finches have a short, strong cone-shaped bill. Did you notice that? (All hands up).

T. Can you tell me what its note is like? (Hands up and imitations produced).

T. Let us try to spell this sparrow talk. *Jyrrp, jyrrp, jyrrp*, is that it? (General assent).

T. But we have a number of native sparrows, have we not? Which is the most interesting of any of these you know? (A few hands up).

B. The white-throated sparrow, sometimes called the Peabody bird.

T. Why the Peabody bird?

B. They say its song is "O Tom Peabody, Peabody, Peabody."

Another B. Or, "All day whittling, whittling, whittling."

T. Cannot some of you sing the song, or whistle it? I will try to write it down in the Tonic Sol-fa. (Number of imitations).

T. Is this it?

| s : - : - | t : - : - | l : l : l | l : l : l : | l : l : l | .

B. Yes, but sometimes I think it is

| d : - : - | M : - : - | s : s : s | s : s : s | s : s : s |

And sometimes

| s : - : - | M : - : - | d : d : d | d : d : d | d : d : d | .

T. Very good. The sparrow has a good song—too good for a "Peabody," or "whittling," "whittling." Is not this the white throat's song?

| s : - : - | t : - : - | l : l : l | l : l : l : | l : l : l |

Oh my Canada, Canada, Canada.

T. I think I would know this sparrow now if I heard him sing; but how would I know him if he kept silent?

B. First he has a sparrow's bill and general appearance. Second, he has a white throat, black crown with a white stripe through the middle and over each eye. Spot over eye and edge of wing yellowish. Body chestnut-streaked above, ashy below whitening on throat.

T. Is he larger or smaller than the house sparrow?

B. Larger, about seven inches from tip of bill to end of tail, and the house sparrow is generally less than six inches in length.

T. Well, we have to-day learned something about two of our birds. Can we with profit spend time to find out anything more about them?

B. I think we can. If we should watch the house sparrow carefully we might find out whether he does more good or harm.

T. Very good. How would you expect he might be useful?

B. By eating small caterpillars, worms, maggots, and other insects.

T. Very well. I shall expect you to make observations on the house sparrow during this term which will enable us to decide whether we should side with those who think he should be exterminated without any pity as a nuisance, or those who think that he is more useful than harmful, and might therefore be tolerated.

Plant Study.

No. III. THE FLOWER AND FRUIT.

The fall is the season of fruits, and many of these may be made the subject of interesting lessons. No part of plant investigation will so abundantly reward the student of nature as a study of fruits. Nowhere is nature more lavish in her bounty—nowhere is more admirable contrivance displayed—than in the production of fruits and their contained seeds; and when we reflect that man and the whole animal world is dependent upon these for subsistence, is not a closer study of them one noble way to show our gratitude to the Creator for His ample gifts? Is it not a sin and a shame that people who live the year round among the bounties of nature are as a rule so indifferent to them, except to gratify material wants?

Definition: The fruit is the ripened ovary and its contents. The ovary is the part of the pistil whose walls are destined to enclose and preserve the seeds. The other parts of the pistil are the style and stigma. The pistil occupies the place of honor in the flower—in the centre, and borne, usually, on the receptacle. The flower is the fleeting part of the plant destined to produce the fruit. The beauty of flowers, their attractive colors, and the ingenious and odd forms of structure which many of them present are only lures for insects by whose help pollen is conveyed to the pistil and the ovules ripened into seeds. [Read Sir John Lubbock's "British Wild Flowers and their Relation to Insects," or Gray's "How Plants Behave," or "Outlines of Lessons in Botany," by Jane H. Newell, Publishers, Ginn & Co., Boston.]

The parts of the flower are simply altered leaves. This is readily seen in the parts of the calyx and corolla. A little observation will prove that the anther of the stamen and the ovary of the pistil are forms of leaf blade, closed for a certain purpose—in the former to protect and ripen the pollen, in the latter the seeds. The pods of the pea or bean are examples of simple pistils or carpels. In the pea pod the veining that belongs to leaves may be distinctly seen. The pod, when ripe, bursts open (dehiscence) by two lines or streams (sutures), the front (ventral) and the back (dorsal). The fruit of such simple pistils has always the seeds attached to the ventral or inner suture. The compound pistil, the fruit of which is called a capsule, is composed of two or more carpels, their edges joined together or simply meeting. If the edges meet only we have, usually, a capsule of one cell; if they are joined together to the centre of the pistil, the united edges forming partitions (dissepiments), the pistil or capsule is two or more celled. In compound ovaries the seeds are variously

placed. If the ovary is two or more celled, the seeds are attached to a projection where the carpels meet to form a partition; if the ovary is one celled, the seeds are attached either to its walls or to a free central axis rising up through its centre. The mode of attachment of seeds in the ovary is called *placentation*. Thus, in the sentence above, the first mode described is termed the *axile*, the second *parietal*, the third *free central*.

The ripened ovary and its contents form, as said before, the fruit. The walls of the ripened ovary we term the *pericarp*, the contents the *seeds*. But other parts of the flower may become attached to the walls of the ovary in growth and help to form what is called the fruit in the popular sense. Thus in the apple we eat the enlarged and fleshy calyx. Take two apples, make through the centre a cross section of the one and a longitudinal section of the other. Let the pupils make drawings of both. The stem was the peduncle of the flower, the withered parts opposite the ends of the calyx, limb. Make a diagram now of the parts.

- Pericarp { 1. Epicarp (the peel).
2. Mesocarp (fleshy part).
3. Endocarp (core, enclosing the seeds).

Compare with the apple, the peach, plum, gooseberry, orange, etc., all these are examples of *indehiscent* fruits, those that must either decay or be opened by animals to set free the imprisoned seeds. *Dehiscent* fruits split open without help and scatter their seeds as the pea pod.

For the REVIEW.]

Notes on English.

The REVIEW and its readers and its printers have enjoyed a three months' holiday from the task of deciphering and printing and reading these notes. It is only fair to me to mention that they are indebted for this favor to the generous consideration of the writer, and that they owe no thanks whatever on this score to the editor. If the latter functionary were not strangely blinded to the true interests of his journal, he would gladly have offered me a holiday, not for three months only, but until the Greek Kalends. He offered none, not even for a paltry quarter. I took it at my own peril; and now I expect the readers to show their gratitude by helping me to fill up the two columns which the editorial Shylock insists on having.

The help I want is the same I asked for a year ago when these notes were begun. It would be easy enough for anybody to fill a couple of columns every month with remarks on the English subjects in our courses of study if he felt persuaded that the readers

of the REVIEW were generally more ignorant and more inexperienced in these matters than he was, or if he thought that the things he was most interested in were the very things that everybody else should be most interested in, or that his ways of doing things were the only proper ways to do them, or his ways of looking at things the only proper ways to look at them. He could then put on the mantle of omniscient sapience, so often assumed by writers in educational journals and by talkers at educational meetings, and could dribble out from month to month the leakings of his knowledge and his wisdom, and distribute as alms to his fellow-teachers the crumbs from his study-table and the sweepings from his school-room.

I have made one or two attempts to think the comforting thought and to feel the comfortable feelings mentioned above—not because I deemed them the best sort, or even a good sort of thoughts and feelings to have, but merely as a matter of business, a preparation for my duties as a writer of notes on English. But some parts of my Ego—I think that's what they call it—would always rise up and protest, and so I finally gave up trying.

But this is a digression from my cry for help. As I appear to be constitutionally unfitted to act the part of *general adviser* and *layer-down-of-the-law* in regard to the matter and the method of the study of English, and as it seems I must do something of that sort for a while at least, a compromise of some kind will have to be patched up. Instead of issuing dogmas and admonitions of all sorts to the world at large, I prefer trying to help individuals here and there who may find some difficulty blocking their way along some line of work belonging to my subject. To help me do so, I beg of all such students and teachers of English who may read this that they will send me questions to answer, and topics to discuss, and notes of anything whatever they find interesting in the course of their study or their teaching. I have two chief objects in making this request. One is to save me the trouble of hunting round for subjects, and the other is that I may feel sure of writing something that somebody besides myself is interested in. Of course I reserve the right of answering only such questions as I think I can answer, and of discussing only such topics as I think I know something about.

To all who will oblige me with the kind of help I ask for, I promise that whatever information may be given in these columns, and whatever opinion may be expressed, will be the best information I can get and the best opinions I can form on the matters inquired about. This much I can promise, but no more; and

it is as a token and a warning that no more than this is to be expected that the articles are signed. It is all very well for some people to write anonymously, just as it was quite fitting and proper for Moses to veil his face on a certain memorable occasion, but — this is another digression.

When I am left to my own devices as to choice of subject — as I am now — I must of course jot down whatever happens to be uppermost about whatever subject happens to suggest itself first when the time for doing these journalistic chores can't be put off any longer.

* * * * *

A parent was complaining the other day that private schools did not use the same books and the same course of study as the public schools. I suppose this is a bit of a nuisance to those who sometimes send their children to one of these kinds of school and sometimes to the other. But I don't just see how it can be helped. The teachers of the public schools certainly can't help it. Their school-books are prescribed for them by the powers that be, and every soul of them is bound to obey St. Paul's injunction to be subject unto these higher powers. They may like the books or not, but that makes no difference. I found one on a pupil's desk the other day. Opening it I read on the fly-leaf, in the handwriting of the owner, "Who steals this book steals trash." If one were to try to guess what book it was, guided only by the title of this article and by an acquaintance with our Nova Scotian text-books, he would of course guess a geography, or a grammar, or a history, or a composition book. It happened that the book was not any one of these dry-as-dust collections of rubbishy facts and fictions, but I said "Hear, hear" to the boy's verdict on it as heartily as if that verdict had been pronounced on one of these other specimens of trash. Trash, I think it is, just as I think the others are; but the mathematical trash, as well as the other trash, is "prescribed by the Council of Public Instruction for use in the public schools of Nova Scotia."

The nuisance that the parent was complaining of would cease if the teachers of private schools would use the books prescribed for the public schools. But will they? I would like to have the privilege of going around with the man who was commissioned to canvass them on the subject. I wonder what he could find to say. Perhaps something like this: "I understand you are using Miss Buckley's History of England as a text-book in your school. Allow me to recommend this one instead of it. The author? oh, I don't know, it doesn't say; but if you will look through the book for about ten minutes I am sure

you will admire the excellent judgment and sterling good sense which led him, or her, or it, or them, to remain anonymous. And I can say the same of this text-book on English grammar, which I hope you will adopt instead of Prof. Whitney's, which you are now using. I have two or three others here that have not the same commendable characteristic of anonymity, but I can assure you that each one of them has several other very distinct characteristics which lend a quite peculiar kind of interest to its perusal. This big one, for instance, is really charming for the skilful way in which it relieves the dull monotony of geographical detail with occasional flashes of untruth and nonsense."

A. CAMERON.

Yarmouth, N. S., October 1st, 1893.

For the Review.]

New Brunswick Schools of the Olden Time.

By W. O. RAYMOND, M. A.

(Continued.)

The Fredericton Academy supplied in some degree a great and growing want, and despite its very inadequate equipment excellent results were attained.

In 1807 Andrew Phair was appointed usher to assist Mr. Bremner. The latter gentleman, after filling the position of preceptor for four years, removed to St. John, and a few years later we find him in charge of the grammar school in that city.

The members of the first New Brunswick legislature seem to have applied themselves with commendable zeal to the enactment of such laws as were essential to the welfare of the infant province. This duty attended to, they then entered upon the consideration of such matters as were essential to the development of the country's resources, in which they effected substantial progress by timely and judicious legislation.

Elementary education, however, continued for years to be carried on under the provisions of the Royal Instructions to Governor Carleton. The delay on the part of the House of Assembly in dealing with this very important question was in some measure owing to a controversy that arose between the Governor and Council on the one hand and the House of Assembly on the other, regarding modes of procedure. An important principle was at issue, as will presently appear, but the protracted controversy was detrimental to the interests of the country. A very fair idea of the situation may be gathered from the following paragraph in the address presented by the "Loyal Freeholders and Inhabitants of Kings County" to General John Coffin, October 25th, 1802, on the occasion of his return at the head of the poll as a member for the county:

"We viewed with peculiar satisfaction the conduct of the first House of Assembly. Their industry and fidelity to

the discharge of their duties, their attention to the wants and necessities of the country, the foundation they laid and the establishments they endeavoured to make for the permanent welfare and prosperity of the province, claim a return of our warmest gratitude; and we are fully persuaded that if their example had been followed by the two succeeding Assemblies, we should not have been left to complain of the wants and difficulties that we labour under at this day. . . . Had the two succeeding Houses had any serious desire to accommodate the inhabitants of the Province with that first of objects—proper schools for the education of the rising generation—they would not have refused some permanent regulations to have provided for the establishment and support of the necessary schools in the several parishes in the Province. But instead of such attention to the public interests, long sessions were wasted to little purpose and at an enormous expense in idle and groundless controversies, which terminated in the loss of the public revenue for four successive years.*

The controversy referred to arose in this way: The House of Assembly in the year 1793 submitted for the approval of the Governor and Council the annual "Bill for appropriating and disposing of public monies." In this Bill they failed to make provision for several objects recommended in the estimate of the Governor and Council, and also voted money for other matters originated in the House of Assembly, granting, for example, to the Justices in each county for the purpose of aiding and assisting the education of the youth in each parish of the Province, £10 for each parish, to be expended under the direction of the General Sessions. The Council desired a conference with the Assembly, on the ground that the appropriation bill did not provide for certain measures particularly and earnestly recommended from the executive chair, and also that the Governor and Council, whilst heartily approving the object of the proposed grant for schools, considered that the appropriation of money for the education of children in the different parishes was a new thing for which special and carefully considered regulations were necessary. These the Council desired to approve, amend or reject on their merits, which they felt could not fairly be done if the withholding of their approval implied the rejection of the bill in which all the moneys voted for public services were included. As the Council disapproved of the regulations proposed by the House of Assembly, they recommended that the grant for Parish schools should come up in a separate Bill.

*The signers of this address were Rev. James Scovil, Rev. Oliver Arnold, Jona. Ketchum, David Pickett, Daniel Micheau, Isaac Ketchum, Rufol Rulofson, Walter Bates, Isaac Perry, Elijah Baxter, John Jarvis, William Peters, Azor Hoyt, Samuel Hallett, Wm. T. Stockton, William Puddington, John Prince, Edward Scovil, Silas Raymond, Joseph Dickson, Newman Perkins, Hen. Fairweather, Wm. Frost and thirty-two others.

The controversy that ensued apparently resulted in the loss of the appropriation bill for several consecutive sessions, and in consequence public interests suffered severely. The opening up of roads of communication was delayed and educational matters were at a stand.

The strained relations existing between the Governor and Council and the majority of the Assembly may be seen in a letter now in the writer's possession. It is dated July 6th, 1797, and was written by Col. David Fanning, one of the representatives of Queens County, to the Province Treasurer, Col. Abraham DePeyster. The letter is a curiosity in its way, and an extract may here be given as both showing the altered customs of the times and the limited education of some of our earlier legislators:

"I have taken the liberty to draw an order on you for five gallons of rum. This is intended for my haying and the mending of my Mill dam. As you was good enough to serve me in the winter, I am in hopes it will be in your power without disobliging yourself, but it is out of my power to send you the cash until fall, as I don't think that I ever shall get anything for attending the general Assembly, as I believe the Diel has got full possession of a majority of the house, and he will hold his holt I will be bound."

An anonymous political tract dealing with the dispute between the Assembly and the Governor and Council at this time suggests that the Council disapproved of the action of the Assembly, on the ground that the members being, almost without exception, influential Justices of the Peace, would practically control the expenditure of the school money in the various parishes. The grant would therefore be merely a little "popularity money," to be expended by the members for their own advantage.

[NOTE.—The date of first meeting of the House of Assembly should be January 3rd, 1786, not February 3rd, as in last number of the Review.—W. O. R.]

Unethical Teaching.

One day little Philip came running home from school in high glee. "O, mamma," he said, "we have had such fun in school to-day! A woman came in with a big wheel, and she turned it fast, and asked us questions, and we all 'hollered' out something, and it was such fun!"

"What did you 'holler out,' Philip?" asked mamma. "I don't know, but I 'hollered' just what the rest did." Now Philip is a boy well endowed by nature. He is strong and healthy, and his mind is in harmony with his body, not over-sensitive, but alert to all the sights and sounds that beat against the door of consciousness. He has that eager curiosity common to all young minds in a normal condition, and when something a little out of the ordinary is

about to take place he exercises this curiosity to the fullest extent. The conversation with his mother was the result of a color lesson which had just been given to his class in school. The wheel was for the purpose of showing tints and shades of color. The novelty of the device attracted Philip's attention. The color delighted his eye. He had not been unobservant of color as seen in the sky, the flowers, his mother's dress, and thus there was that essential condition of some similar past experience to attract and interpret the new. The conditions for receiving knowledge seemed to be all right on Philip's side. How was it with the presentation?

In the first place the device was too complex, having a tendency to draw the attention of the pupil to itself, rather than to what it illustrated. Seeing the "wheel go round" was more impressive than the color. The point of the lesson was not referred to, in the account Philip gave his mother. Then the teacher undertook too much, as several colors with their tints and shades were presented in the short space of twenty minutes. There was no individual questioning, and as is usual in concert recitation, a few of the older and brighter pupils "led off," and others chimed in for the pleasure of shouting. If an idea was evolved from the presentation it did not enter the mind with sufficient force to stay there, and the result was that Philip, and doubtless many others, even in putting forth their best effort, failed to gain a new item of knowledge. Now the failure to acquire knowledge is not the most deplorable result of such teaching as has been described. It does not take long to blunt and dull the mind, to render it unresponsive. The failure to test the pupil's interpretation of the matter presented often results in misinterpretation or lack of definite knowledge and, of course, lack of definite thought.

Not only does this kind of training make intellectual growth impossible, but it is positively pernicious in its effect upon moral development. Mental and moral development are inseparable. To think clearly and definitely requires the power to discriminate. With a lack of discriminating power there can be no sharp decisions between right and wrong. Hence the kind of training described above tend to the formation of a weak vacillating character. Just now there is much said of the teaching of ethics in the schools. The necessity of adding it to the curriculum would be greatly lessened if teachers realized how much morality there is in clear and definite thinking, and adapted their methods to securing this end. To do this they must study the child and continue the good work nature begins, instead of thwarting it.—*N. Y. School Journal.*

OCTOBER'S PARTY.

October gave a party,
The leaves by hundreds came,
The chestnuts, oaks and maples,
And leaves of every name.

The chestnuts came in yellow,
The oaks in crimson dressed,
The lovely Misses Maple
In scarlet looked their best.

The sunshine spread a carpet,
And everything was grand,
Miss Weather led the dancing,
Professor Wind the band.

They balanced to their partners,
Then gaily fluttered by,
The scene was like a rainbow
Just fallen from the sky.

And in the dusky hollows
At hide-and-seek they played;
The party closed at sundown
And everybody stayed.

Professor Wind played louder,
They flew along the ground,
And there the party ended,
With hands all 'round and 'round.

How to Preserve the Eyes.

Engravers, designers and workers of fine embroidery are apt to be troubled with congestion of the corner of the eye and inflamed lids. Generally this does not interfere materially with their power of vision, but it gives them a most unpleasant expression. An old engraver told a Philadelphia *Record* writer his experience with his eyes, and how he cured them.

"About five years ago one of our engravers went to a leading New York oculist, paid him \$15 and received a prescription which cost him five cents to have a druggist put up. It cured his eyes like magic and he told us about it. We all laughed, for we had grown tired of hearing about remedies, and had no faith. The prescription called for a 'saturated solution of boracic acid,' or what we call 'powdered borax.' For five cents you can buy enough at a druggist's to last you for months. Put a heaping tablespoonful in an ordinary tumbler of water and let it thoroughly dissolve. Then apply to the eyes with the fingers; never use a sponge or cloth. Let it dry on the eyes. Use it first before retiring and after rising, or at any other time.

"I was induced to try it and have used it freely, sometimes four or five times a day, for four years. It is no exaggeration to say that it acts like magic. I have no further trouble with congested eyes and haven't lost a day from work in four years. My daughters and their young lady companions use it before going to parties and after they return, and their eyes sparkle. The borax is a mild astringent, contracts the congested blood vessels and sends the blood into its natural channels."

Expulsion of the Acadians.

[An American Sketch.]

In a paper on the Rhode Island emigration to Nova Scotia, by Ray Greene Huling, A. M., New Bedford, Mass., U. S. A., reprinted from the *Narragansett Historical Register*, April, 1889, beginning at page 6, we find the following sketch :

In 1749 the English themselves laid the foundation for a settlement on the beautiful and capacious harbor of Chebucto and named it Halifax. A jealousy soon sprang up between these English settlers and their French neighbors, the nearest of which were at Pisiquid, now Windsor, some forty-five miles away. Soon war was renewed between the English and French governments, during which both the Acadian settlers and the Indians in Nova Scotia, though professedly neutral, were found in ardent sympathy with the enemy. Blood and religion were stronger than political relations. The Acadians repeatedly refused to take the oath of allegiance to the British crown, except one so modified as to exclude service against the French. The English governor, Charles Lawrence, clearly saw that the Acadian settlements on the Annapolis and the Basin of Minas offered a constant rendezvous for attack upon the feeble settlement of Halifax, and determined upon the forcible removal of the French to the southern colonies, with such dispersion of them as would prevent their concerted action. To accomplish this required hasty and secret preparation. *No word was sent even to the Home Government, though the two admirals on the station were consulted.* Seizing an opportune moment, when a New England force under Lieut.-Col. John Winslow was at hand, brought thither for the capture of the French forts at the head of the Bay of Fundy, Governor Lawrence instructed his officers to collect the Acadians in the whole region, prevent any from escaping, and put all on board transports which would be provided. Families were to be kept together as far as possible. The work was done by Winslow at Grand Pré and that neighborhood, and by Capt. Murray at Pisiquid. The blow fell early in September, 1755, and was made by the New England troops as light as their orders permitted. After a little waiting, in order to bring in the men who had fled to the woods, the vessels sailed, bearing three thousand souls from home and native land to various points along the coast in what is now the United States. To preclude a return the houses about Grand Pré, certainly, were burned, but elsewhere the work seems to have been less complete.

We italicize the sentence referring to the "Home Government."

THE CORINTH SHIP CANAL.—The ship canal across the isthmus of Corinth was opened August on 6th by the king of Greece in the presence of a crowd of native and foreign notables. King George expressed his pleasure at seeing the canal finished during his reign. The first sod of the canal was turned by the king in April, 1882. The isthmus is about three and three-quarter miles in breadth. In the middle is a ridge 120 to 180 feet high, which is approached on each side by a plain from the seashore. There is a harbor at each end of the canal.—*Our Times.*

The guiding star to successful teaching in chemistry is the personality and enthusiasm of the instructor. With the great increase in attendance in many institutions the earlier relations between student and instructor, which were frequently mingled with deep personal feeling, somewhat akin to veneration on the part of the student, are well-nigh impossible. Nevertheless, an enthusiastic teacher with tact and good judgment has little difficulty in maintaining a profound interest even in large classes. In successful teaching we all know how much depends upon the attitude of the instructor toward his students. Courteous relations, with a clear understanding that teacher and students are mutually interested in the acquisition of knowledge, readily secure the confidence and esteem of a body of students, and the instruction need seldom be interrupted by questions of conduct. A faithful teacher does not limit his attention to the brighter minds; students slow in comprehension, but earnest in application, secure a store of information which will be used later to the best advantage. It was a wise teacher who said: "I am faithful in my duty to dull students; in my old age I may need favors of the men of wealth."—*Science.*

In the recesses of your being earnestly ask yourself these questions: How many good books have I read since I began to teach in this school? How many boys and girls are perceptibly better physically, intellectually and morally because of my teaching and influence? How many evenings during the term have I devoted to study, how many to fantastic frivolity, empty gossip, or unseemly revelry? How many recitations have I conducted listlessly, mechanically, monotonously, impatiently? How much time have I given to preparation for lessons? How many times have I punished or reprovved in anger? How oft has the sun gone down on my wrath? How many times have I used slang in the school-room? Looking back over my work, do I truly think that it can be said of me now or hereafter, "Well done, good and faithful servant?"

Do you want a better salary? Then do such work this winter that your patrons will be anxious to have you teach the same school next winter. Prepare yourselves better for the work, and your services will be in demand. The greater the demand for an article the higher the market price. There are but few communities indeed that will not supplement the salary of an earnest, devoted normal teacher. The trouble is that so many teachers do not really earn the salary they now receive, and the American people are too shrewd to pay more for anything than it is worth.—*Selected.*

QUESTION DEPARTMENT.

1. I sent 20 cents for 20 pencils, the prices being 4 cents each, 2 for a cent, and 4 for a cent. How many of each kind will I receive?

Let x = No. of pencils at 4 cents each.

$$y = \text{ " " } \frac{1}{2} \text{ " "}$$

$$z = \text{ " " } \frac{1}{4} \text{ " "}$$

$$\text{Then } 4x + \frac{1}{2}y + \frac{1}{4}z = 20 \quad (1)$$

$$\text{But } x + y + z = 20 \quad (2)$$

$$\text{Then } 4x + 4y + 4z = 80 \quad (3)$$

$$\text{Subtract (3) - (1) } 3\frac{1}{2}y + 3\frac{3}{4}z = 60 \quad (4)$$

$$14y + 15z = 240 \quad (5)$$

This is an indeterminate equation and may be easily solved by the usual methods for such equations; or by inspection thus: Assume $z=1$, then y must be equal to $16\frac{1}{2}$, which does not answer the conditions. Again, assume $z=2$, then y must be equal to 15 and $x=3$. These numbers fulfil all the conditions and are therefore the numbers required.

2. A and B start to walk from a given point. A walks uniformly 18 miles per day. After 9 days he turns and goes back as far as B has walked during those 9 days; then he turns and pursues his journey, overtaking B $22\frac{1}{2}$ days from the start. At what rate did B travel?

Let x = miles per day travelled by B.

Let a line M N R T represent the distance travelled by B, and NR the part of the road over which A

travelled three times = the distance B travelled in 9 days = $9x$.

$$\text{Then A travelled } 405 \text{ miles} = MN + 3NR + RT \quad (1)$$

$$= MN + 27x + RT \quad (2)$$

$$405 - MN - RT = 27x \quad (3)$$

$$\text{But B travelled } MN + NR + RT = 22\frac{1}{2}x \quad (4)$$

$$MN + 9x + RT = 22\frac{1}{2}x \quad (5)$$

$$MN + RT = 13\frac{1}{2}x \quad (6)$$

$$\text{Add (3), (6) } 405 = 40\frac{1}{2}x$$

$$x = 10$$

ANSWERS TO QUESTIONS BY A TEACHER OF N—K, N. B.

1. How many pounds of gold are actually as heavy as 12 pounds of iron?

$$1 \text{ lb. Avoirdupois} = 7000 \text{ grains.}$$

$$12 \text{ lbs. " } = 84000 \text{ "}$$

Gold is weighed by Troy weight.

$$5760 \text{ grains} = 1 \text{ lb. Troy.}$$

$$84000 \text{ " } = \frac{84000}{5760} \text{ lbs. Troy} = 14\frac{1}{3}$$

∴ 12 lbs. iron (Avoirdupois) = $14\frac{1}{3}$ lbs. gold (Troy).

2. Distinguish between bilateral and radial symmetry.

The axis of symmetry is a line drawn through the middle of a figure so that the parts on one side are exactly repeated in a reverse order on the other side, as in a maple leaf, which illustrates bilateral symmetry. In radial symmetry these units of design

radiate from a point, as in a rosette, or as in some compound leaves. Both terms are well illustrated in the Greek anthemion border.

3. What metal does slate contain?

Several, but principally aluminium and silicon.

FOR MR. E. D. G., VICTORIA, N. B.

Solve Ex. 4, Series I, page 146, Hamblin Smith's arithmetic.

If the paper's number is 8505, there must have been that many week days and one-sixth as many Sabbaths, or in all 9922 days—27 years and $60\frac{1}{2}$ days, allowing $365\frac{1}{4}$ days to a year. Therefore the first number must have been published on the 19th April, 1850. But as there were 1417 weeks and 3 days besides, the first number must have been published three days back from Monday, that is on Friday.

FOR A STUDENT, L. B. R.

1. Can any angle be trisected by geometry?

No general method for the trisection of all triangles has yet been discovered.

2. Describe a square in a semicircle.

Let a semicircle be described on the line AC. On the same side from the point C draw DC at right angles to AC and equal to it. Let B be the middle point of the line AC. Join DB, cutting the semicircle in E. From the point E, without the line BC, draw EF at right angles to BC. (Euc. I, 12). EF will be the side of the required square. Because EF is parallel to DC, therefore $BF : FE :: BC : CD$. But $CD = 2BC$, therefore $EF = 2BF$. Take $BG = BF$ and draw GH perpendicular to AB, cutting the semicircle in H. Then GH can easily be shown to be equal to FE, and $HE = GF$. Therefore HGFE is the required square.

This problem can also be easily solved in Euc. II, 14.

3. How much larger is a triangle whose sides are 10, 11, 12, than another triangle within it whose sides are parallel to those of the former and two inches from them?

Produce the sides of the inner triangle until they cut those of the outer triangles. From the points of intersection let fall perpendiculars on the sides of the outer triangle. The sides of the right-angled triangles and of the parallelograms thus formed can be easily found by trigonometry. But the operations would be too long for our columns. The difference in the areas of the two triangles will of course show the area of the strips between the margins of the triangles.

4. If $a+b=1$, then must $(a^2-b^2)^2 = a^3+b^3-ab$.

From the first equation, $a=1-b$, substitute this value of a in the second equation and we have

$$(1-2b+b^2-b^2)^2 = 1-3b+3b^2-b^3+b^3-b+b^2$$

$$(1-2b)^2 = 1-4b+4b^2$$

$$1-4b+4b^2 = 1-4b+4b^2$$

5. (a) Is the time shortened at the Nova Scotia Normal school by holding a B before you go? (b) Are you allowed to begin work wholly of a professional character corresponding to that grade?

(a) Those holding only a *Grade B* enter in October. Those holding Provincial License B, also Normal school diploma, enter the Normal school in April. (b) Your work will be mostly professional.

In reply to M. of Shelburne, N. S.: The new regulations regarding license do no prejudice any rights acquired by previous licenses. Such acts of repudiation have been known in our past educational history, but no such injustice is likely to occur in the future.

INQUIRER.—Who were the Governors of New Brunswick since 1848? Who were the leaders of the government during that time? Would you kindly answer the above and settle a dispute?

The Lieut. Governors were:

Sir Edmund Walker Head, Bart,	appointed	1848
Sir J. H. T. Manners-Sutton,	"	1854
Sir Arthur Hamilton Gordon,	"	1861
Major General Sir C. Hastings Doyle,	"	1866
Lieut. Col. F. Pym Harding,	"	1867
Hon. Lemuel A. Wilmot,	" July,	1868
Sir S. L. Tilley, K. C. M. G.,	" Nov.	1873
Hon. Edward Barron Chandler,	" July,	1878
Hon. Robert Duncan Wilmot,	" April,	1880
Sir S. Leonard Tilley, K. C. M. G.,	" Nov.	1885
Hon. John Boyd,	" Sept.	1893

The leaders of the Provincial Government were:

Hon. Robert L. Hazen, Q. C.,	appointed	1848
Attorney General L. A. Wilmot,	"	1849
" " John Ambrose Street,	"	1851
" " Charles Fisher,	"	1855
" " John H. Gray,	"	1856
" " Charles Fisher,	"	1857
Provincial Secretary S. L. Tilley,	"	1861
Attorney General Albert J. Smith,	"	1865
Provincial Secretary S. L. Tilley,	"	1866
" " John A. Beckwith,	"	1867
" " Geo. L. Hatheway,	"	1871
Attorney General George E. King,	"	1872
" " John J. Fraser,	"	1879
Hon. D. L. Hanington,	"	1882
Attorney General A. G. Blair,	"	1883

SCHOOL AND COLLEGE.

The Academies of Nova Scotia are offered four free scholarships in the Victoria School of Art and Design, by competition—good for two years. The directors have hitherto extended these scholarships to three years for specially deserving students. Last year, there were eight pupils enjoying these scholarships. The competitive examination will be held about the end of this month.

Principal Lay of Amherst Academy, has been taking the census of Amherst Town. He finds that the population numbers only 3,651. In his rounds, he formed many new and agreeable acquaintances, and learned many things about his constituency that will be useful to him in his management of the pupils of the schools of the town.

We regret to learn of the total loss by fire of the Lunenburg, N. S., academy with all its contents on the 28th of September. The fire occurred at noon, probably from a defective furnace. The building had ten departments—containing accommodation for all the pupils of the town and was valued at \$10,000, of which \$5,000 was covered by insurance. We extend to Principal McKittrick and the teachers our sympathies, as their personal losses will be considerable.

Mr. Albert Haslam, of Springfield, P. E. I., goes to Rothesay, N. B., where he takes a position in the collegiate school at that place. We congratulate Mr. Haslam upon his appointment.

Since the N. S. Council of Public Instruction has taken it in hand to grade our academies and high schools, would it not now be in order for the principals of these institutions to associate together and make uniform grading examinations for the several grades of the common schools? This might be done by appointing a committee each year to draw up these examinations. By each one contributing a small amount each year copies could be printed; or, if this is too expensive, a copying machine could be procured and each principal receive one copy of papers. By this examination, and taking into consideration the reports of teachers of the several grades and their lists of pupils in order of merit, all our common schools would soon be upon the same standing.—W. W. S.

The Senate of the University of N. B. has appointed Geo. M. Browning, B. Sc., of Pennsylvania State College and Electrical Engineer of the Polytechnic Institute of Brooklyn, N. Y., to succeed Prof. Duff. Mr. Browning brings testimonials of a very high character from both of the institutions named above. The University of N. B. opened on the 2nd of October with a matriculating class of nineteen.

We are glad to learn that Mt. Allison University has opened with an attendance that will exceed probably that of any previous year. The freshman class numbers about 25 and contains some excellent material.

St. Martins, N. B. Seminary opened the last of September, with a large number of new students and with bright prospects for the present. The energetic principal, Dr. deBlois, has accomplished a great deal of hard and careful work since he undertook the principalship at St. Martins.

Gloucester County, N. B., has to deplore the loss of one of its best teachers, Mr. Patrick J. B. Landry, who passed away on September 19th, 1893. He attended normal school in 1890, obtained his license, and since that time has taught in Gloucester County. The first school he took charge of was in Burnsville, Parish of Caraquet, where he taught for a year and a half; then he left there, "much regretted," and took a school in Grand Anse. He was just beginning his fourth year's work when his death occurred. Mr. Landry was an excellent teacher, and his many friends will hear of death with much sorrow.—A FRIEND.

Mr. W. J. O'Donnell, of Fort Augustus, has been appointed teacher in the Sixth grade in the high school, Summerside, P. E. I. Mr. O'Donnell goes highly recommended and takes the place of Mr. W. P. McNally, who intends taking a course at McGill Medical School. Miss Brehaut, of Traveller's Rest, has been appointed to the Fourth grade of the same school, made vacant by Miss Brown's accepting a position in Kent street school, Charlottetown.

The increased number of pupils attending the public schools at Charlottetown, P. E. I., made it necessary to open two new departments in September,—one in Prince street school and one in Kent street.

James A. Allen, teacher for some time at Cove Head, P. E. I., has gone to Montreal to take a course in medicine in McGill College.

The Provincial Normal School at Truro, will re-open on the 18th, with probably the largest attendance in its history.

Mr. R. W. E. Haines has been appointed principal of the Weymouth schools which are fortunate in securing such an able teacher.

The Calendar of the Halifax Ladies College and Conservatory of Music has been received. It shows an attendance of 284 in all the departments. There are 18 teachers. Miss M. S. Kerr (Cambridge University—Math. Honors), is the principal. Among the other prominent teachers are Mrs. Trueman (B. A. Dal. Col., Grade A.); Miss S. C. Henning, B. A. Vassar; Miss Fiske (Mt. Holyoke); and Miss L. Murray, B. A., Dal. An interesting feature of the College is type-writing and short-hand, under the care of Miss Alice W. Corbin, a graduate of Frazee's Business College. Mr. Lewis Smith has been placed in charge of the Art Department, with a staff of assistants for the various branches of art. Miss Hayward, who studied her profession in England, will teach reading and elocution.

We have just read the Maine School Report for 1892. Evidently the Maine Schools are far behind ours, especially their country schools. Their school laws are very defective. The examination of teachers throughout the country is mainly left to the different Boards of Trustees. There is no system. Their schools are in session on the average only 24½ weeks in the year—123 days. They are poorly equipped and taught by poorly paid, inefficient teachers. There are signs of progress, however. For the last two years they have supplied their pupils with free text-books—with excellent results. The cost last year was only 58 cents per pupil. When they shall have discarded management by sections—the cause of all their troubles—and adopted the Township system, they will rapidly improve.

The Springhill N. S. school, with a staff of fifteen teachers under Principal Torey, had enrolled during last term one thousand one hundred and eighty-six pupils. This makes it one of the largest schools, if not the largest one, in Nova Scotia under one principal.

One of the first students which St. Stephen has sent to McGill is Mr. Joseph Lochary, who left on Monday night last to take a course in medicine at Montreal's well known college. Mr Lochary has many friends and well wishers along the St. Croix who follow him with best wishes for his success.—*Courier*.

The education class at Dalhousie University opened on Saturday, October 7th. The work of this class comprises lectures (1) on the History of Education, by Alex. McKay, Esq., twice per week for four months, English, German, French and American, Comparison of Systems and Eminent Educators; and (2) Theories of Education, by Professor Murray, every Saturday: Instructionism as represented in Spencer's Education, Discipline as represented in Locke's Thoughts on Education, Culture as represented in Thring's Theory and Practice of Teaching. (3) Practice of Teaching. For three months, six hours per week, with lectures on School Management and School Law, under supervision of Mr. McKay.

N. B. Normal School Entrance, 1893.

CLASS II GEOGRAPHY. Time 1 hr. and 30 min.

N. B.—The map in question 1 is valued at 30.

1. Draw from memory an outline map of Nova Scotia, inserting mountain ranges, chief rivers, coast waters, and ten important towns. Give at least one fact in connection with each town, on the map or in a foot note to it.
2. Explain the following terms, viz:—Equator, Ecliptic, Meridian, Tropics, Trade Winds, Solstice, Eastern Standard Time.
3. Describe the physical Geography of South America.
4. To what countries or cities are we chiefly indebted for the following articles, viz:—Coffee, Silk, Cutlery, Carpets, Bananas, Linen, Cinnamon, Flour, Tea, Sugar, Raw Cotton, Steel Rails, Kid Gloves, Wines, Peaches, Oranges.
5. Where and for what noted are the following, viz:—Demerara, Palos, Valetta, Los Angeles, Warsaw, Port Arthur, Singapore, Ticonderoga, St. Ives, Valencia, Mecca, Bow River, Jamestown, Genoa, and Carmel.

NATURAL HISTORY.

CLASSES II. and III. Time 1 hr. and 30 min.

Candidates for Class II will answer six questions. Five questions make a full paper for Class III.

1. From what is lime obtained and how? From what is Plaster of Paris obtained and how? How does each differ in composition from the substance from which it is derived?
2. Of what minerals does granite consist? By what properties do you distinguish them from each other?
3. Of what use is the leaf—the stem—the flower to the plant? Give reasons to show the correctness of your answer in each case.
4. What is slate? What are its most important uses? What properties make it suitable for those uses? What metal does it contain in considerable quantity?
5. From what sources do plants derive their food? From which source do they obtain the greater part of it? Tell how you know in each case.
6. Describe a plant belonging to the Rose or one belonging to the Lily Family. Include in your description both the organs of vegetation and of reproduction.
7. Refer the plant you describe to its proper series, class, and subclass, with reasons.
8. Mention some of the ways in which flowers differ from each other in form and structure. Illustrate your answer by examples.

ENGLISH GRAMMAR AND COMPOSITION.

CLASS II.

Time 1 hr. and 30 min.

- For *who*, to dumb *forgetfulness* a prey,
This *pleasing* anxious being e'er resigned,
Left the warm *precincts* of the cheerful day,
Nor cast one *longing*, lingering look *behind*.
(a) Give the meaning in your own words.
(b) The general and detailed analysis.
(c) The parsing of the italicized words.
- Write a descriptive paragraph, of about 20 lines, on some incident in your life.
- Give a classification of adjectives and pronouns with examples of each class.
- In what ways are the plurals of nouns made? Give examples.
- What figure of speech is used in the following:
The rosy morn
A thousand fathoms deep.
As swift as lightning.
As silent as the grave.
Freedom shrieked.
- Correct anything wrong in the following:
My skates are not fixed right.
I dont know as I will.
Shall you go, or will I?
Can I say a word to you?
- Apply rules of syntax to the italicized words in the following:
I read *him* a story.
I expect *to remain*.
All but *he* had fled.
There is not a *wife* in the west country
But has heard of the well of St Keyne.
Oh, sacred *Truth*, etc.

CLASS II. ARITHMETIC AND BOOKKEEPING. Time 2 hrs.

The first two questions and four of the others make a full paper. The explanation, when asked for, will be considered of as much or greater value than the operation. The unitary method will be held to include both operation and explanation.

1. \$64.75.

ST. JOHN, 16 June, 1892.

Six months after date, for value received, I promise to pay to the order of Thos. Jenkins sixty-four and $\frac{75}{100}$ Dollars, with interest from date at five per cent.

WILLIAM ROBER.

Endorsement: Dec. 16, 1892, \$36.75.

Find the amount due on Feb. 1st, 1893.

2. Moses Brown buys, to-day, from James Thomson 1 bbl of flour for \$5.25, 16 bbls. of sugar at 6c., 12½ lbs. of cheese at 15c., and pays \$4 in cash. Make the proper entry in Thomson's Day Book and in Brown's Ledger, and write a receipt for the cash.

3. Eight men of equal ability can do a piece of work in a certain time; but three of them do not come; in consequence of which the rest require four days longer to complete the work. Find what part of the work the eight men working together would have done in a day. Explain the operation, or work by the unitary method.

4. Find the distance in yards from one corner to the opposite corner of a rectangular field the area of which is one acre and the width 10 rods.

5. Multiply the difference between 16½ per cent. of twelve and 10 per cent. of 50 0015625 by two thousand.

6. Multiply twenty-five thousandths by four times itself; subtract from the product one-fourth of itself. Work entirely by decimals.

7. Divide the sum of $\frac{2}{3} - \frac{5}{12}$ and $\frac{11}{24}$ of $\frac{3}{2}$ by their difference. $\frac{2}{3} - \frac{5}{12}$ and $\frac{11}{24}$ of $\frac{3}{2}$ by their difference. Explain (do not describe) the work of division.

CLASS III.

GEOGRAPHY.

Time, 1 hr. 20 m.

[The map in question 1 counts for 40.]

- Draw from memory an outline map of New Brunswick inserting the following: Six important rivers, three lakes, fifteen cities and towns, six islands, ten bays or harbors, two lines of railway with their branches. On the map or in a separate sketch, mark your native county with its chief physical feature, towns and parishes.
- Define latitude and longitude, and explain how each may be ascertained on a map. Give the latitude or longitude or both, of any city or town of N. B.
- Explain the causes of day and night, and of the change of seasons.
- Describe as fully as you can any two of the following cities, viz: Halifax, Boston, Toronto, Winnipeg, St. John, Quebec.
- Give the positions as accurately as you can, of the names of places connected with the following:
Breeds of Horses—Percheron, Shire, Suffolk, Arabian, Clydesdale.
Breeds of Cattle—Ayrshire, Devon, Holstein, Angus, Durham, Galloway, Hereford.
Breeds of Sheep—Cotswold, Shropshire, Southdown, Leicester.
Breeds of Swine—Chester, Berkshire.
Breeds of Fowl—Leghorn, Brahma, Plymouth Rock.

ENGLISH GRAMMAR AND COMPOSITION

CLASS III

Time, 1 hr. 30 min.

- On *Linden*, when the sun was low,
All *bloodless* lay the *untrodden* snow;
And dark as winter was the *flow*
Of *Iser*, *rolling* rapidly.
(a) Give the picture presented by these lines.
(b) The general and detailed analysis.
(c) The parsing of the italicized words.
- Write in the form of a letter, a description of (a) some striking natural scene (b) some interesting incident in your own life, or (c) some book you have lately read.
- Write a paragraph on some item of interest which has recently occurred in the vicinity of your home.
- Write all the inflections of the following words, viz: Who, near, rise, tiger.
- Correct what you think wrong in the following:
I never done it.
They ain't far wrong.
Try and come to-morrow.
You and me are the same.
Is that her?

CLASS III.

ARITHMETIC.

Time, 2 hrs.

[Six questions make a full paper.]

- (a) Express in Roman numerals: 99, 489, 1893, 144.
(b) Express in Arabic numerals the following whole numbers: (1) two million twenty thousand and two, (2) one million and ten, (3) twenty thousand and one.
(c) Express in Arabic numerals the following: decimals (1) two million twenty thousand and two tenths of billionths, (2) one thousand and twenty millionths, (3) one thousand and twenty tenths of millionths.
- Make out a bill for the following goods which John Brown bought to-day from William Jones. 16 lbs. sugar at 7½ cents per lb.; 2 bbls. flour at \$4.75; 4 lbs. tea at 42c.; 1 doz. lemons for 30c. Receipt the bill.
- Divide 10 per cent of 3.125 by 150 per cent. of 6.25. Explain (show why as well as how) the method by which you determined the place of the point in the quotient.
- Add together six decimals, each greater in value than the one which preceded it, whose sum shall be equal to 2½.
- Find the value of the difference between 3-5 of an acre and ½ of a square rod, at \$1.50 per square yard.
- A man receives \$18 for 6 days' work of 8 hours each. What should he receive for 5 days' work of 9 hours each? Explain the operation.
- From $\frac{1}{2}$ of $2\frac{1}{2}$ subtract the product of $1\frac{1}{2}$ and divide the remainder by 12.

BOOK REVIEWS.

MENSURATION, by W. S. Hall, C. E., M. E., M. S., pp. 62, published by Ginn & Co., Boston.

This little volume is intended as a supplement to such books on trigonometry as are deficient in practical exercises—such books being in use in some colleges. Rules are given sometimes with the proof: but more frequently with reference to Wm. Geom. without any explanation as to what Geometry is meant by the Wm. Geom. It would be much better to have such exercises as are here given, always associated with the theoretical part of the subject.

BEST PRIMARY SONGS, by Amos M. Kellogg, 58 pages, published by E. L. Kellogg & Co., New York. A fairly good selection for primary departments. It is written in the staff notation.

STUDIES IN AMERICAN HISTORY, by Mary S. Barnes. (Teacher's Manual,) 155 pages, price 60 cents, published by D. C. Heath & Co., Boston, 1892. This volume shows how to "deal with historic records at first hand as the geologist deals with fossils, the botanist with plants." "The questions asked demand of the pupil independent thought, feeling and expression, instead of asking him to read and repeat the opinions, sentiments and words of others."

"In the study of heroic deeds of peace and war, you lay a concrete basis for patriotism without saying a word about it. Let the teacher ask himself: What are the connections of my city, town, or vicinity with the general history of the country?" "One important outcome of these local studies, should be the formation of local historical collections." "There should be kept in every school where history is taught, a historical scrap-book."

These sentences serve to indicate that Miss Barnes is an ideal teacher of history. Such a book for our Canadian schools would simply be invaluable.

HUME'S TREATISE OF MORALS and selections from the *Treatise of the Passions* with an *Introduction*, by James H. Hyslop, Ph. D. pp. 275, published by Ginn & Co., Boston. This is the first of a series of publications to be called the Ethical series, in which the ethical system of Hobbes, Clarke, Locke, Hume, Kant and Hegel, are to be discussed and illustrated by full selections from the works of these philosophers. In the introduction, covering 54 pages, Dr. Hyslop gives a very clear and valuable account of the organic relations existing between Hume's system and the systems of his predecessors and contemporaries, and of Hume's ideas as affected by the circumstances of his life. The publication of this series will make easy for many the study of ethics, to whom otherwise it would be difficult or impossible.

The D. Lothrop Company brought out a set of readers, graded, to meet the demands of the several ages of scholars, for which they were intended, and arranged by the best authorities on the subject. Their **INTERSTATE PRIMER** and **INTERSTATE READERS, I. and II.**, are endorsed by the best supervisors, superintendents and teachers all over the country "as at the head for children's reading books." The publishers have issued the **INTERSTATE THIRD READER**, prepared by an expert in the field, Miss Mary T. Lovejoy,

who has long been working at the problem how best to teach children to use their reasoning powers, and to exercise the thought faculty in acquiring the use of good English. D. Lothrop Co., Boston, Mass. Price 40 cents.

CATALOGUE OF THE LIBRARY OF KINGS COLLEGE, WINDSOR, N. S., with occasional annotations, by Harry Piers. We congratulate Mr. Piers and Windsor College on this excellent catalogue of one of the most valuable libraries in the Maritime Provinces—containing, as it does, many very rare editions. Mr. Piers had already achieved considerable success as a writer of articles for the Nova Scotia Institute of Science, of which he is a councillor. This effort will add very considerably to his growing reputation as a writer.

Miss Mary F. Hyde has added to her series of language lessons **ADVANCED LESSONS ON ENGLISH**. This series aims to secure a natural method of studying English. The work does not aim to teach the greatest possible number of facts about the English language, but to give the pupil a mastery of the leading grammatical principles as a means toward the right understanding and correct use of English. The book is divided into four parts. Part I. treats of "Kinds of Words—the Parts of Speech;" Part II. of "Classes and Forms of Words—Sub-divisions of the Parts of Speech and Inflection;" Part III. of "Relations of Words—Syntax;" Part IV. of the "Structure and Analysis of Sentences." Ginn & Co., Boston.

A PRACTICAL COURSE IN ENGLISH COMPOSITION FOR HIGH SCHOOLS AND ACADEMIES, by A. G. Newcomer. Boston: Ginn & Co. The new method of teaching composition is based on the theory that the only way to learn writing is to write, and therefore instead of wearying and disgusting the student with dry technicalities he is encouraged from the very outset to express his own ideas. The special features of this book are, first, that it shows how simple it is to find material for writing; and secondly, how easily and pleasantly that material can be worked up into compositions. Seventy-three exercises are given, each dealing with some particular kind of composition, proceeding from the simplest narration to the most ingenious forms of argument and the highest style of oratory. Specimen subjects and themes are given, together with suggestions as to dealing with them. Lastly, models are furnished, sometimes from writers of established reputation, but also selected from work actually produced by students, so that the young writer will be encouraged by seeing that success is not beyond his reach. The book is heartily to be commended as not only logical and comprehensive, but also most interesting and stimulating.

KATE MACKINTOSH,

Halifax County Academy.

A LABORATORY MANUAL containing directions for a course of experiments in organic chemistry, to accompany Remsen's *Organic Chemistry*, by W. R. Orndorff, A. B., Ph. D., Assistant Professor of Chemistry in Cornell University. Price 40 cents. Publishers: D. C. Heath & Co., Boston. This little volume, containing the description of some eighty-two experiments, is recommended by Prof. Ira Remsen as a valuable adjunct to his volume on organic chemistry.

THE ADELPHOE OF TERENCE, with Introduction, Notes and Critical Appendix, by Sidney G. Ashmore, L. H. D., Professor of Latin in Union College, Schenectady, N. Y. Publishers: MacMillan & Co., London and New York. pp. LXVIII. and 208. In this neat and convenient volume the editor gives in an introduction the origin and progress of Latin comedy. The text is everything that could be desired, with notes, critical appendix and vocabulary.

OUTLINES OF RHETORIC, embodied in Rules, Illustrative Examples and a Progressive Course of Prose Composition, by John F. Genung, Professor of Rhetoric in Amherst College, N. Y. Cloth, pp. 331, price \$1.10. The teacher who is accustomed to hear his pupils say, "I can't write compositions," should get this book, study it, and then go to work. The arrangement and method of treating are excellent, as might have been expected from the author. Theory and rule are admirably explained, and are accompanied by abundant illustrative examples.

HEALTH READERS, No. I and II, with special reference to the Effects of Alcohol, Tobacco, etc., upon the Human System. Publishers: T. C. Allen & Co., Halifax, N. S. These two little volumes in Allen's "Progressive School Series" have been compiled from existing health readers, with adaptation for Canadian schools. Each reader contains lessons in physiology, hygiene, etc., accompanied with abundant illustrations, and review questions at the end of each lesson. They are very creditable to the publishers and should have a wide circulation; and teachers in other provinces will find in them valuable aids in giving lessons on the subjects which they contain.

ARITHMETIC BY GRADES, Book I, prepared under the direction of John T. Prince. Paper, price 20 cents. Publishers: Ginn & Co., Boston. This excellent work will be found of the greatest value to primary teachers of arithmetic. The number, simplicity and variety of examples will furnish the best of aid to those who would lay a good foundation in number.

DAS WIRTSCHAUS IN SPESART—Marchen von Wilhelm Hauff—Notes by G. Eugene Fasnacht, 283 pages, price 3s., published by MacMillan & Co., London. A pleasant reading-book for English students of German. The notes are most judicious, and with the convenience of the vocabulary at the end, will make this volume very popular in the schools.

INTRODUCTION TO THE FRENCH LANGUAGE, by Alphonse van Daell. Ginn & Co., publishers, Boston, Mass. This is an excellent school book. The remarks on French pronunciation are good and helpful. The author does not attempt to give an exact English equivalent for French sounds, but treats of vowels, nasal sounds and consonants in such a way as will be most useful to the teacher. The idea of questions on the exercises is a good one. The poetry at the end of each lesson is another good feature of the book. Taken as a whole, this will be found a grammar of unusual interest. Such a text-book in the hands of a good teacher should make the study of French pleasurable as well as profitable.

Shakespeare's **KING HENRY THE FOURTH** (first and second parts); Shakespeare's **ROMEO AND JULIET**; by K. Deighton. Price 2s. 6d. each. Publishers: MacMillan & Co., London

and New York. These three volumes form a continuation of the cheap and valuable Shakespearian series published by the MacMillans. These volumes for neatness, convenience and the excellence of their critical notes form a valuable series for a student's library.

ENUNCIATIONS IN ARITHMETIC, ALGEBRA, EUCLID, AND TRIGONOMETRY, by P. A. Thomas, B. A., 84 pages, price, 2s. Published by MacMillan & Co., London. This is essentially a book to assist students in self-examinations—suggesting the outline and more important topics of these subjects.

LOGARITHMIC TABLES, by Prof. Jones of Cornell University, 160 pages, published by MacMillan & Co., London, and by G. W. Jones, Ithaca, N. Y. For clearness of arrangement, convenience of use, and the utility of its tables, this volume has no superior—probably no equal.

HISTORY AND LITERATURE IN GRAMMAR GRADES, by J. H. Phillips, Ph. D. Paper, price 16 cents. Publishers: D. C. Heath & Co., Boston. We welcome this as a continuation of Heath's valuable series, "Monographs on Education." This contains some good hints to the teachers of history and literature.

Educational Articles in the Magazines.

Science for September contains an article on How Chemistry is Best Taught. It will well repay the study of it by every teacher of chemistry.

In the *Popular Science Monthly* for October, Prof. Jas. McK. Cattell writes on the Progress of Psychology, and foretells some of the practical applications of the science.

The October *Atlantic Monthly* contains many timely articles of historical and literary value, chief among which is the article by R. C. Jebb, Professor of Greek at Oxford, and the most eminent living English Scholar in Greek, on the Permanent Power of Greek Poetry.

First among the attractions of the October *Century* is the account of Taking Napoleon to St. Helena, from an unpublished diary of the trip, written by John R. Glover, Secretary of Admiral Sir George Cockburn.

The *Cyclopedic Review of Current History* for the second quarter of 1893 is a wonderful compendium of the prominent events of the last three months; while its subjects are, of necessity, briefly treated, nothing of importance appears to have been omitted. Garretson, Cox & Co., publishers, Buffalo, N. Y. \$1.50 per year, single copies 40 cents.

The weekly issues of *Littell's Living Age* for September contain among other valuable articles the following: A Group of Naturalists, The Wanderings of the North Pole, Ethics and the Struggle for Existence.

GOVERNMENT OF NOVA SCOTIA. PROVINCIAL SCHOOL OF AGRICULTURE, TRURO, NOVA SCOTIA.

The next term will begin October 19th, 1893, in the New School Building. This institution possesses complete sets of apparatus to study the NATURAL SCIENCES and their relations to AGRICULTURE. The following courses are given:

General Course in Agriculture.	
" " Horticulture.	for Teachers.
" " Dairying.	
Special Course in Veterinary Science.	
" " Natural Sciences.	
" " Dairying.	
" " Dairying for Teachers.	
" " Dairying for those who wish to run creameries.	
" " Agriculture.	

The special courses are for those who cannot take the full course. NO FEES FOR ADMISSION. By working on the farm students can earn enough to pay part of their expenses. Ladies admitted as well as gentlemen. For further information apply to.

PROF. H. W. SMITH, Truro, N. S.