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MISSING

The Educational Review.

Devoted to Advanced Methods of Education and General Culture.

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G. U. HAY,
Editor for New Brunswick.

A. McKAY,
Editor for Nova Scotia.

J. D. SEAMAN,
Editor for P. E. Island

THE EDUCATIONAL REVIEW.

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THE REVIEW is nine years old. It has always been under the same management. It has had a steady growth in circulation. Its editors have aimed to keep pace with the advance of educational thought, and in close touch with teachers and their daily duties. From the many words of encouragement it has constantly received, we have every reason to believe that it has been helpful to its patrons. While it has always managed to pay its way and keep out of debt, it has not been a financial success in the sense that it has paid its promoters for the labor they have expended upon it. As to its success from an educational point of view we let its readers, who are in a position to know and to judge, draw their own conclusions.

The subscription price of the REVIEW is small—less than *ten cents* a month. Our subscribers are getting into the habit of paying promptly in advance. That is the most business-like way for all concerned.

Subscribers should notify the REVIEW promptly when they change their address. That is only a matter of simple justice and courtesy. If they wish the paper discontinued they should notify us as soon as the subscription expires. Some subscribers have said, "I never ordered the paper after the first year;" but if they go on receiving it they are in honor bound to pay

for it. Very few of our subscribers have evaded any just claim upon them. This fact, together with the words of encouragement from the many, has lightened very considerably the task of managing the REVIEW.

In another column will be found the programme of the N. B. Educational Institute, which meets in Fredericton in June. This, with the official announcements by the Chief Superintendent of Education concerning July examinations, will prove of interest to New Brunswick readers.

THE meeting of the Summer School of Science at Parrsboro in July is expected to be a large one. We hope the representation from the three provinces will be full, as, in addition to the excellent programme marked out, matters of importance concerning the future of the school will be discussed.

WE have received the twenty-fifth annual report of the managers of the Halifax School for the Blind. The efficiency of this excellent institution, its admirable management, and the good it is accomplishing should win for it active co-operation and sympathy everywhere in the three provinces.

THE degree of LL. D. was conferred on Prof. Bailey, M. A. Ph. D., of the N. B. University, at the recent convocation of Dalhousie University, Halifax. Dalhousie does itself honor in its recognition of a man who has so long and so worthily filled the chair of natural science in the sister university.

THE CONCORD EXPERIMENT is a plan for enabling the pupils in sparsely settled communities to attend a central school by means of conveyances provided at the common charge. It has been tried for three or four years in Massachusetts and has been a marked success, so much so that over one hundred and forty towns in the state have availed themselves of a permissive law passed for the purpose, and there is now scarcely a small school in the state. The cost of education for outside pupils has been reduced one-half, and the attendance has largely increased. There are fewer teachers required, and better salaries are paid.

This would be an excellent plan to adopt in many parts of the Maritime Provinces, where it is nearly impossible for some pupils to attend school. A good central locality can be chosen, and all the advantages of a graded school afforded at less expense than at present. We must try and keep step with the times, especially in such really progressive measures as the above.

Free School Supplies.

At the recent conference of the teachers and trustees in St. John, the advantages of supplying the schools with paper, pencils and pens were pointed out. It was shown that it would be cheaper for the average rate-payer and would conduce to greater efficiency in school work. Either reason should be sufficient to bring about action on the part of school boards. School supplies would be much cheaper if purchased in large quantities. For example, slate pencils can be bought for a few cents per box, but if obtained by the cent's worth a box costs more than double the amount. Again, material which belongs to the school will be looked after by the teachers and not permitted to be taken from the rooms, and thus will last much longer. In such case, also, the quality best adapted for pupils' use will be procured, which is no small advantage. Another decided gain would be long pencils for all pupils, and pens which are uniform in style and excellence. Much valuable time is now lost because suitable material of this kind is not provided to pupils, and which, when worn out and useless, is not promptly renewed.

This may be said to advocate free texts. It certainly does, but the ground has already been broken. There is now a provision for the supply of texts to "indigent" pupils, but because of the term used few, if any, avail themselves of the privilege. It is the custom in most parts of the United States to provide free texts, and in no case when once adopted has it been receded from. Let our school boards make a beginning.

TALKS WITH TEACHERS.

I am glad to see that the teachers of St. John have at last been aroused to the necessity of forming an association to look after the general and special welfare of the body. There are one hundred ways in which such an association may be of advantage. It can provide protection and redress to teachers generally, and may be an important and influential factor in creating and shaping public opinion, as well as establishing a professional etiquette which shall frown upon unprofessional conduct of any kind. That such an association opens a wide field for culture and mutual improvement is also apparent. If the members proceed on progressive ideas the society will thrive. If their chief object is to preach blue ruin, it will soon perish.

In the nature of things some scheme for superannuation should be the prime object of such an association, and there can be no doubt but that as soon as the

teachers show they are in earnest and formulate a workable plan, assistance may be obtained from other sources. An excellent business man and a former teacher said to me a few days ago: "There are one hundred old teachers in the province who could contribute as well as not five hundred dollars each toward such a fund." Just think of it, fifty thousand dollars to begin with! In Ontario and Quebec the government makes a grant for superannuation. Why should not our own city and province do the same?

A new high school building is about to be erected in St. John, and it will no doubt be fully up to the times in equipment. Why do not the teachers petition before it is too late for accommodation in it for a reading room and library? The room could also be used as a place of meeting for the new association. Such a concession, if granted by the board, would not only be of advantage to the teaching profession, but indirectly to the pupils who come under their care, and, therefore, to the citizens generally. Teachers seek to improve themselves and advance in order that they may do better work, and rate payers cannot manifest their appreciation in a more tangible way than the one which I have indicated.

I am informed that it has become a recognized custom among the best colleges in the United States to allow each professor every seventh year in which to recuperate and study. A similar custom prevails in some of the larger cities with respect to teachers, and a most commendable one it is. It is true teachers' hours are not long, but for that matter neither are those of professors and clergymen, yet both classes seek and are granted periodical leaves of absence, and there can be no doubt but that an ample return is made in the increased effort put forth by the recipients of the favor. We have some teachers who have been continuously employed for more than a quarter of a century. Do they not deserve a year's rest with full pay?

For the REVIEW |

A Correction.

To the Editor of EDUCATIONAL REVIEW:

In your last issue of the REVIEW an item appeared giving me credit for being instrumental in procuring, among other things, a school library for the school at Grand Falls. That was an unintentional mistake on the part of your informant. Miss Bessie Fraser obtained the money for that purpose three years ago by means of a school concert. By inserting this in your next issue you will greatly oblige

J. L. WHITE.

Grand Falls, April 22nd, 1906.

For the REVIEW] **NATURE LESSONS.****Reptiles (Reptilia) of the Atlantic Provinces.****A. THE SNAKES.**

1. RED-BELLIED SNAKE (*Storeria occipitomaculata*). Greyish or brownish above, with faint dots on side. Back of head with three pale blotches. Belly, salmon red.

2. COMMON GARTER SNAKE (*Eutania sirtalis*). Olivaceous above with three series of small dark spots on each side. Sides and belly greenish white.

3. GRASS SNAKE (*Liopeltis vernalis*). Uniform deep green above, yellowish below. (Not reported from P. E. Island).

4. BLACK SNAKE (*Bascanion constrictor*). Lustrous pitch black above, greenish below, chin and throat white. Young, olive with lozenge-shaped black blotches.

5. RING-NECKED SNAKE (*Diadophis punctatus*). Blue black above, pale orange below. Yellow ring, two scales wide about the neck. (Not reported from P. E. I.)

B. THE TURTLES.

1. LEATHER TURTLE (*Dermochelys coriacea*). Marine. Smooth, leathery skin, dark brown, six to eight feet long. Occasional visitors of the Atlantic coast.

2. COMMON SNAPPING TURTLE (*Chelydra serpentina*). Fresh water. Shell, dusky brown. Two feet long. Common in the larger lakes.

3. PAINTED TURTLE (*Chrysemys picta*). Fresh water. Shell, greenish black above, yellowish below. Plates margined with paler, marginal plates marked with bright red. Eight inches long. Common.

4. WOOD TORTOISE (*Chelopus insculptus*). In woods and fields. Reported, but doubtfully, from Nova Scotia.

[We have not seen any of the turtles reported from P. E. Island. If any other species are known in New Brunswick or the other provinces, the editor will be obliged to any one reporting the same on good authority. We may have oral lessons on some of these in future numbers of the REVIEW.]

The Planets in May.

During this month a splendid opportunity will be afforded for seeing the planet Mercury after sunset, an opportunity which no one should lose, because Mercury, on account of its proximity to the sun, is difficult to catch sight of except under very favorable conditions. It will be visible in the west all the month, but will be best seen about the middle, when it is at its greatest distance from the sun. It attains its greatest eastern elongation on the 16th, when it will be seen shining between the horns of Taurus, a few degrees south of the second magnitude star Beta or El Nath. With a telescope it will then appear in the form of a half moon.

While Mercury is on exhibition as an evening star, Venus the typical evening star when it lies eastward from the sun, will remain inconspicuous in the morning sky, gradually drawing nearer to the sun, behind which it will pass early in July. At the beginning of the month Venus will be in Pisces; at the end in Taurus.

Mars is a morning star, moving slowly in the course of the month from Aquarius into Pisces, and at the close of the month it will rise about one o'clock in the morning.

Jupiter, remaining in Cancer, and slowly drawing nearer the "Beehive" cluster, will continue to be the most brilliant planet in sight throughout the month, and, in fact, throughout the early part of summer. Castor and Pollux in the Twins are so near the great planet that its presence serves to point out those famous stars to persons unfamiliar with the constellations. Being brighter than any fixed star, Jupiter ought to be readily identified, but there is an easy way for those who possess a strong field glass or spy glass to make the identification doubly sure. Such an instrument cannot fail to show one or more of Jupiter's moons, and in favorable circumstances, all of the four principal moons.

Saturn, in the constellation Libra, rises early in the evening, and by nine or ten o'clock is in an excellent position for observation. Being in opposition to the sun, it is, roughly speaking, at its nearest point to the earth, and consequently, most favorably situated for telescopic study. The earth is not quite so far north of the plane of the rings as it was at the end of winter, but the change is not sufficient to cause the rings to appear to the ordinary observer appreciably narrower, and, in fact, the whole planet, in all its dimensions, looks a trifle larger on account of its nearer approach.

Uranus is also in Libra, nearly between the fourth magnitude stars Gamma and Iota. Coming into opposition on the 12th, it should be visible to the naked eye, but, in order to identify it, the observer should watch it with a field glass, and note its position from night to night in relation to small stars near it.

Neptune is in Taurus and Mercury will be near it at the middle of May.—Garrett P. Serviss in *Scientific American*.

Teachers should ever be students. No teacher can succeed who is content to remain in a state of rest, or who stops to ask the cost of his labor, or what will be his reward. The world owes nothing to its contented men and women. Contentment means decline. The only way to do well is to strive to do better. This law of growth through striving is as universal in its application as the law of gravitation. A teacher without an ideal—an ever-movable ideal—is intellectually, if not morally, dead.—Patrick's *Pedagogics*.

For the REVIEW.]

The Teacher's Personality.

How important it is that youthful minds should learn to appreciate the beautiful in the life around them and through forceful habit intuitively "love the best when they see it!" Yet this selecting of the "beautiful" and "best" is not natural to the untutored mind; hence, the importance of careful culture on the part of teachers, especially during the formative period when the child is so susceptible that he may be said to take on the color of all he meets, or, more truly, all he loves. How important, therefore, that he should be trained to cultivate "proper loves and proper hates," to love the pure, lovely, and of good report, and to hate all "appearance of evil."

How a child's life may be brightened and sweetened by being guided in righteous paths and beside the still waters! Ah! who can estimate what errors may thus be avoided and what an endless chain of good influences may be set in motion!

Theory and beautiful thought are not sufficient to realize our ideals, these must be crystallized in action, else the beauty vanishes and the ideals become stumbling, not stepping, stones. Do we not oftentimes feel the words of Shakespeare to be sadly true? "I can easier teach twenty what were good to be done than be one of the twenty to follow mine own teaching."

We feel ourselves handicapped by our own imperfections. We cannot conscientiously ask another to *be* what we are not, or *do* what we are not willing to do. We must be greatly good ourselves, else we cannot greatly influence for good. We may conceive high ideals of life and point them out to others, but it is not the "go up," but the "come up higher," higher along with me—and not only this in words, but by nobility of life—that truly uplifts.

It is not what we say, but what we *are*, that potently speaks and gives momentum to our actions and charm to the life.

Thus realizing that we cannot effectively teach more than we *are*, how wise our inmost thoughts should be, how jealously guarded lest they defile and belittle that inner temple, that higher self to which all else in life should be subordinated!

Shall we not seek to keep this temple "beautiful, entire and clean," ever pressing upwards for

"More life and fuller,"
 "Till we at length are free,
 Leaving our outworn shell
 By life's unresting sea?"

Well may a teacher exclaim, in view of the responsibility incumbent upon her, "Who is sufficient for these things?" But is it not well that we should thus feel

our insufficiency, lest, being self-satisfied, we make life a dignified repose rather than a "noble unrest!"

How often in the past have we failed! Yet, "not failure, but low aim's crime."

Shall we not, therefore, resolve anew to rise on the pleasures and discontents of life from one plane of excellence to another, till we "shuttle off this mortal coil," and at length realize the satisfaction of our being in its Source!

L. M.

Halifax, April 1898.

For the REVIEW.]

We Learn from Good Examples.

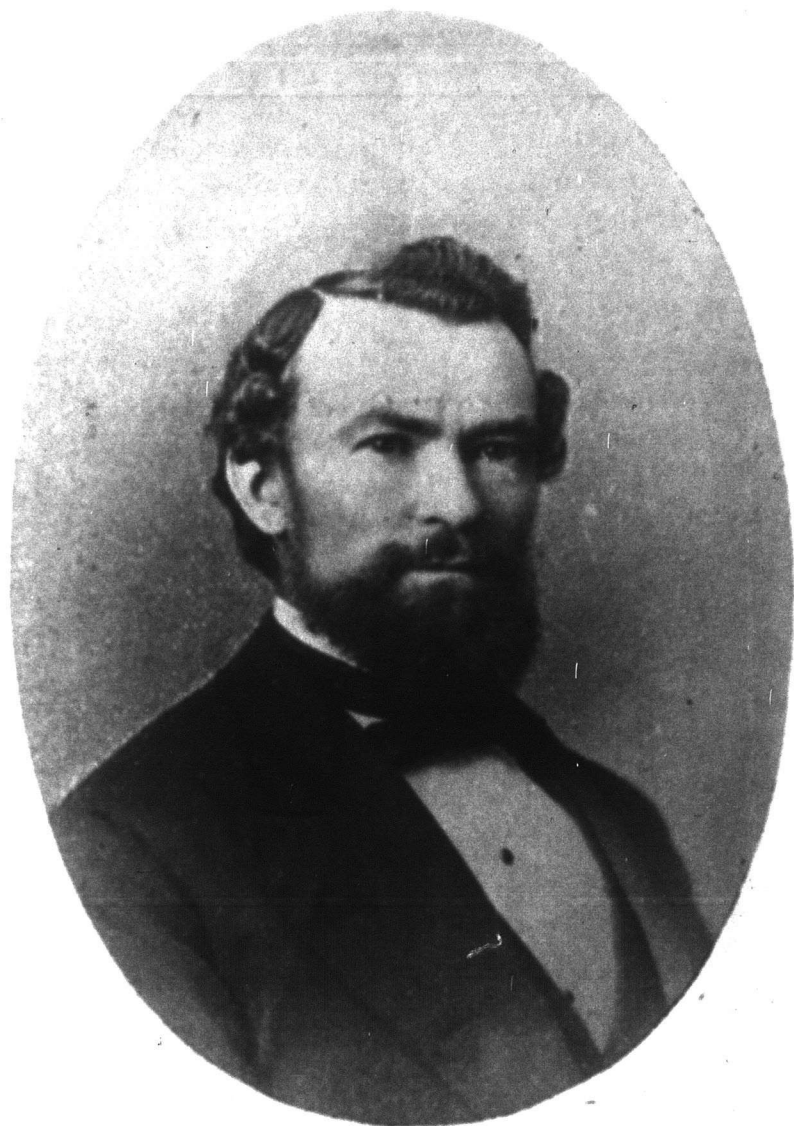
Character building—the formation of habits of attention, industry, independent thought and scrupulous honesty in work—is of infinitely more importance in the education of the child than mere book knowledge. It is the aim of all conscientious teachers to help prepare their pupils to become upright citizens, and although there are many discouragements to be met with, yet sometimes the faithful teacher has the happiness of seeing results of his or her labors.

The examination recently held at Compton Avenue school, in Miss Creighton's department, must have been encouraging to the teacher, as it was delightful to the writer. The programme was long and varied, embracing tests in all the branches of Grade VIII work. The bright, intelligent faces of the boys and girls, the close attention, and the prompt, respectful manner in which the responses were given, showed full sympathy between pupils and teacher. The work was in its character plain, solid and thorough, and no doubt could exist in the mind of the onlooker as to its being the genuine outcome of the daily work of the term. One noticeable feature was that the answering was not confined to a few but that all took part and seemed eager to assist in making the examination a success. The work in arithmetic and algebra was most thorough,—the questions were taken down promptly, worked rapidly, and answers and explanations given clearly and concisely. In grammar the pupils showed that they not only had memorized principles and rules, but that they knew how to apply them, and thus prove that grammar is not only the science, but the art, of speaking correctly. The geography exercise took the form of map drawing on the board. Several volunteered to do the work, and while they sketched the outlines and located places, others criticised and corrected. Reading, spelling, drawing from objects and calisthenics completed the programme. The exercises in calisthenics were very pleasing, and the erect and graceful bearing of the pupils during the whole session testified to the usefulness of this branch of education.

T.

Halifax, March 30th, 1896.

Geo. F. Matthew, M. A., D. Sc., F. R. S. C.



We have much pleasure in presenting to the readers of the REVIEW a sketch and portrait of Geo. F. Matthew, of St. John. Although Dr. Matthew has been engaged in active business pursuits during his life, he has devoted himself so successfully to science, and especially to his chosen subject, geology, that his name is known far and wide as an authority on the geology of New Brunswick. Nor is he unknown to teachers. During his connection with the Natural History Society he has been a teacher of science, year after year giving instruction to classes of teachers and other students in the rooms and museum of the society in geology and other subjects of natural science. His busy and useful life is a striking example of what may be accomplished by those who use wisely their odd moments.

Born at St. John, August 12th, 1837, he received his education at the St. John grammar school, then taught by Dr. Paterson. His grandfather was Captain George Matthew, who came here in command of one of the vessels of the "Fall Fleet" of Loyalists in 1783. He was not a Loyalist, but from Dundee, Scotland, and was for a number of years before his death harbor master of the port of St. John. His father, George Matthew, was a merchant and mill-owner in St. John. His

mother was a daughter of John Harris, a farmer and ship-builder, who settled at Gondola Point, near Rothesay, with the Loyalists, and was from York, England. In April, 1868, Dr. Matthew was married to Katherine Mary, second daughter of Rev. J. W. Diller, D. D., of Brooklyn, N. Y., by whom he has several children, of whom the eldest son, Dr. Wm. D. Matthew, a recent graduate of Columbia College, N. Y., gives promise of a brilliant career in science.

In 1853 Mr. Matthew was appointed clerk in the Provincial Treasury Department, St. John, which was merged after confederation in the Customs Department. For over forty years he has maintained his connection with the customs. He was appointed Chief Clerk in 1879, and Surveyor of Customs in 1893, which office he now holds.

Mr. Matthew's scientific work dates from 1864, although previous to that he was an active member of the "Steinhammer Club," the progenitor of the N. B. Natural History Society. This club numbered several active scientific workers, among them the late Prof. C. F. Hartt, the late R. P. Starr, and others. From 1864 to 1878 Mr. Matthew was engaged in geological exploration of the southern counties of New Brunswick, first with Dr. Bailey on the Provincial Geological Survey, and after, in 1869, on the Canadian Geological and Natural History Survey. While employed on the geological survey of New Brunswick he was offered the situation of naturalist and geologist on the International commission for marking the boundary between the United States and Canada, west of the Mississippi, but was unable to accept this appointment.

Mr. Matthew's published writings are numerous. His first scientific article, "Impressions of Cuba," was the result of observations made during a visit to that island in 1860 for the recovery of his health, which was impaired by an attack of typhoid fever, brought on by exposure during a geological excursion along the north of Nova Scotia with the late Prof. Hartt. This article, published twenty-four years ago, has been lately cited with commendation by Dr. J. W. Spencer, a well-known scientist, lately director of the Geological Survey of Georgia.

For a time, between 1865 and 1870, Mr. Matthew was engaged in the study of botany, undertaken in connection with geology as necessary to the understanding of remains of fossil plants. At this time he wrote the article on Arctic and Western Plants in Continental Acadia. This article was written to show the sources from which the New Brunswick flora had been derived.

From 1870 to 1877 he was chiefly engaged in exploring, and writing reports on the geology of New Brun-

wick, but found time for special articles on the Mollusca of the Post-pliocene Formation, Tidal Erosion in the Bay of Fundy, etc.

From 1883 to the present time he has been largely engaged in the study of the organic remains of the St. John group, and he wrote a number of papers on this subject for the Royal Society of Canada, American Journal of Science, American Geologist, Canadian Record of Science, etc. At the same time he wrote papers for the Natural History Society of New Brunswick on Lacustrine Formations, Remains of the Stone Age, Silurian Fishes, Sketch of the Life of Prof. C. F. Hartt, etc.

Mr. Matthew was formerly a Fellow of the Geological Society of London. He was one of the original Fellows of the Royal Society of Canada. He is a life member of the Natural History Society of New Brunswick, and one of the founders, and was for many years its president. He received an honorary degree of M. A. from the University of New Brunswick, and the degree of D. Sc. from Laval University, Quebec. He is a corresponding member of the New York Academy of Sciences, of the Geological Society of Belgium, Societ. Malacologique de Belgique, Nova Scotia Institute of Science, etc.

Dr. Matthew is an original worker and thinker, and the persistence and marked ability which he has shown in working out in recent years the fossil remains of trilobites and other animals in the group of rocks near St. John, has won for him the recognition of the geologists of the world.

Dr. Matthew has received an invitation to be present and take part in the coming meeting of the British Association for the Advancement of Science, which will meet at Liverpool in September next. He has accepted the invitation.

For the REVIEW.]

The Mayflower.

To the Editor of the Educational Review:

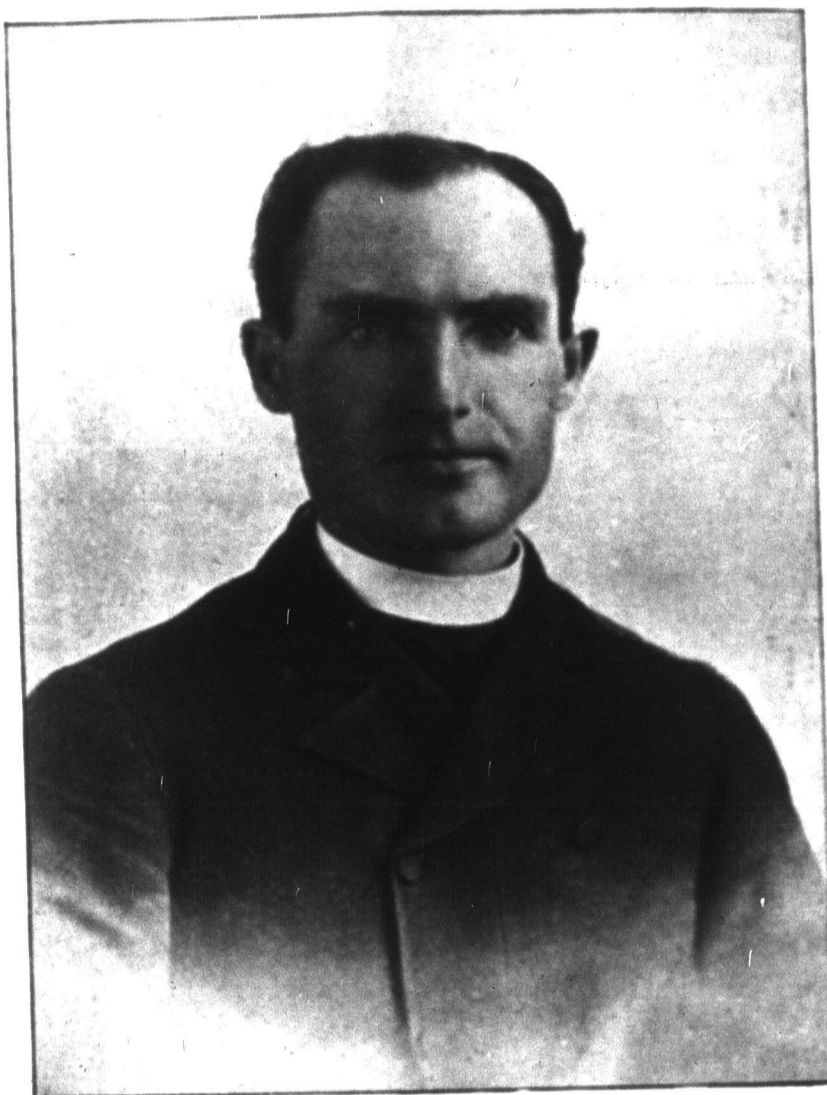
I write for information concerning one of our earliest flowering plants the Mayflower described in the Botany in use (Gray's) as *Epigaea*, also called Trailing Arbutus. Now, the flower we call the Mayflower in this county does not correspond to that description—it not being a trailer, but a shrubby plant with flowers in a head, pink or more generally white. I enclose a specimen. Please explain to what family it belongs in May REVIEW.

A TEACHER AND READER OF THE REVIEW.

Yarmouth County, N. S.

[The specimen you send is *Epigaea repens* (Trailing Arbutus, Mayflower), belonging to the Heath family (*Ericaceae*). The plant is always trailing in habit, except perhaps where it grows in open ground, where it may form small clumps, not rising to the height of more than a few inches however. Ed.]

Rev. D. A. Chisholm, D. D.



Dr. Chisholm was born in Guysboro County, N. S. in 1859. His parents were both natives of Scotland. From an early age he displayed great aptitude for learning. At sixteen he was well developed physically and led in the classes of the schools of his native place, both common and academic. After spending two years at St. Francis Xavier College he went to the Propaganda College, Rome, and took a very thorough course, extending over about eight years. In 1888 he graduated with much credit. About four years ago he succeeded Dr. McNeil (now Bishop McNeil) as rector of St. Francis Xavier College. Since that time the college and academy have lost none of the vigor and prestige acquired in the time of his able predecessor. The average attendance is increasing and the buildings are being enlarged.

The doctor takes much interest in educational questions, and is an able advocate of humanistic studies as being the centre of the mind's thought world, the bearer of moral disposition, and the material of instruction best suited to develop mental power and a generous culture. To show more definitely the nature of his educational theories, we quote a few sentences from his

paper on "Correlation," read before the last session of the Provincial Educational Association:

"The purpose of the course of study is to enable the student to obtain an insight into the world of thought and matter, and by the very process of obtaining this information or insight to acquire new strength of mind, power to think new thoughts and grapple with new studies, new problems which in almost innumerable shapes and varieties will come up for solution during the course of one's life."

He thinks the tendency is too much towards acquiring information for the utility of it; that on the contrary we should emphasize "the vastly greater importance of time being given to assimilate into the fibre of our mental being the information gained," that we should give "prominence to those studies which for centuries have been regarded as the best instruments for the development of mental power, and are still so regarded by the best authorities of to-day," that "in multiplying the number of studies we make it impossible for any one of them to yield for us its training value." "The chief purpose of any course of training is the development of innate power. Enlargement of mind is not produced by the extent or variety of subjects studied, but by the sound intense thinking done on these subjects, and is within certain limits, not in direct but in inverse proportion to the extent or area of the vast field of knowledge to which the student has devoted his attention."

CONCENTRATION.

BY J. ALMYR HAMILTON.

Principal of Primary Department, Provincial Normal School, Truro, N. S.

This afternoon we shall endeavor to see more clearly the relation of the child to the world around him, and in so doing, get at the meaning of and beauty in what is called the "Theory of Concentration."

Firstly, therefore, what is the child, this living breathing lump of immortality? We might as well ask, what is the Creator, the Giver of Life, for the child is the culmination and climax of all God's creations.

Stand by the cradle a moment and view him, this bundle of energies, ready to be acted upon by all external energies, the waves of light that touch his eye; the vibrations of air that touch his ear; the contact and resistance of his body to objects through touch.

The child begins to respond to these energies and to smile, to laugh, to stretch his feet and arms, to see, to hear. And now comes the question for us: What must the child do from the very nature of his being? Before the child is conscious of it, the rhythm in music affects him. What child does not love to be sung to

any time but especially when sleepy time comes and you sing a "Rock-a-bye" song?

"Why," we ask, "is this?" Simply because the whole universe is revelling in music. The rippling of the tiny brook, the wind in the trees, the patter of the rain or hail, the thunder's roar, and the mighty avalanche, are all nature's music, and "the half has not been told."

Perhaps the most marked response which the little one gives is through his fanciful creations. A little form, a little color are enough to set him at work, and he creates, out of his very simple supply of ideas, his own world, his myth world, and lives over again the childhood of the race. Who of you, now, cannot remember half a dozen myths of your own creation in which you were perfectly happy in childhood? What is this myth? The world is full of it. It is the beginning of history, and should play a most important part in our school course. What is Norse mythology but Norse history? and how beautiful it is, partaking as it does of the very nature of the people and the country. In the story of Iduma or Baldur is a vivid pen picture of the hardiness, trust and simplicity of the people. You can see their country of fiords and mountains; you can feel the long cold winter and rejoice with them at the return of spring. Contrast with this the Greek mythology. Could you imagine the stories of Hermes, Apollo, or Phaeton as being Norse stories? Why, no, they partake of a different climate, different people, different customs. In the same way we might contrast the Indian myths. Thus you see the childhood of the race lies in the myth. Not only is it the beginning of history but the beginning of science and religion as well. Note, for instance, the myth of Santa Claus, the foreshadowing of the All-Giver, All-Lover. What can be more beautiful? and yet, some of us think children ought to be taught the plain matter-of-fact truth about it, or rather *our* view of the truth of Santa Claus, whereas the myth will of itself lead naturally into the truth.

Thus have we seen how the child of necessity studies the myth. He is also a student of anthropology. He not only studies individual life as in his mother, teacher, playmates, but he studies community life, through the study of his own family, his neighbors, his school fellows. Here also comes in the study of civics, and just the measure of the child's judgment of the democratic, monarchial or socialistic character of the government of home or school, just such will be his judgment of that government in after years.

Again, he studies zoology. Look back into your early childhood and see if you did not study zoology

with all the zeal of a university student, and more. Did you not know how the cat meow'd and the dog barked? Did you not imitate the bobolink, robin and nightingale? Did you not know why the grasshopper had two long legs at the back? And how often you have said, "Grasshopper, grasshopper, give me some molasses or I'll kill you." Of course you know all about these experiments, don't you?

Children study botany. Nothing gives a greater delight than the study of plant life. The four o'clock, snap-dragon, daisy, blue bell, the huckle-berry, black-berry, blue-berry bushes, the evergreen trees, the ever-changing robes of the maple tree, all are of unceasing delight and interest to the little child.

In the same way he studies meteorology and physics. Earth, air and water surround him. He knows from whence the wind comes that brings the snow, and also the wind that brings the flowers. These statements need no proof of their truth. You know what you did, I know what I did. We were not exceptional children. All children study these subjects and they study more.

Is there a child living in Halifax or Dartmouth who does not study mineralogy? I should like to see him if such there be. With the harbor right here, with its lovely beaches, a perfect delight to the little people, if they could only get there oftener; with the bed rock cropping up in every direction over your city, they cannot help studying mineralogy.

But geography, *real* geography, is a study of unconscious pleasure and interest. Look at your Harbor, Basin, North-west Arm, Citadel Hill, Islands, Points, and tell me this,—could a boy transplanted from Halifax at five or six years of age, forget how it looked? Of course he cannot, for however faint other pictures may become, the images in our minds of the surroundings of our birth-place will remain.

To sum up therefore,—The child's spontaneous study and interest include geography, geology, mineralogy, botany, zoology, anthropology and physics, and he begins them all unconsciously. There is an inexhaustible store from which the child may study, and he loves it. Doctor Dewey of the Chicago University, says,—“The child loves best what will best develop him.”

Another point to which I wish to call your attention is this:—Note the wonderful powers acquired by the child in his first three or four years, and the persistence there is in such acquirements. Thus, for instance, the art of locomotion—creeping, walking. Did you ever watch a baby when he started to walk? Look at the fear, courage, ambition, written in every atom of his being! He does it! He does walk! It is simply

marvelous and still when that child comes to school at six possibly we think him stupid, whereas, he has the courage of a Daniel, the ambition of a Napoleon.

Still more wonderful than this is his learning to talk. In the beginning, he creates his own language of gesture by means of his body. Then he hears others talk, and with it comes a desire to talk also, and he creates his own language of crudely articulated sounds. Then follows the vernacular which he hears. He thus learns articulation, accent, pronunciation and syntax, all by hearing language, and under the controlling desire to *express thought*.

It goes without saying that the child is a student of form and color. Everthing with which he comes in contact have those elements. In his study of form, he also begins a study of number. Size, weight, area, bulk, distance, come into his judgments. He measures time by his play, meals, sleeping time, etc. He knows quite well the relative value of a cent and a stick of candy, or five cents and a ball. Yesterday I saw a boy of less than six summers bounce a ball to test it before he paid for it. Was there anything in that, think you?

My friends, there never was a lazy child in the world. He is full of life, full of activity. He gives expression to his thoughts in language (speech), music, drawing, making, and many other ways, and *all* before he enters school.

Behold him! Here he comes! What do you think of him? What are you going to do for him? Are you going to present the conditions whereby he can grow and develop as his Creator intended he should grow and develop, or are you going to teach *words, dead words*, to this child who has had more courage, more ambition, and studied far more than you or I have done in the last ten years?

If you would have him develop as his Creator intended, it would be well for us to know what education is. Doctor Dewey says, “Education is not a preparation for life, it is life.” Colonel Parker says,—“Education is the working out of the design of the human being into character.” With both these definitions in mind, let us remember that economy in education as in everything else is very essential. Therefore it is that at the present time the trend of study is towards the correlation and unification of educative subjects and their concentration upon human development. In this way every subject finds its absolute and relative educative value, and all contribute to the unity of the body, mind, soul, unity of educative effort, unity of action, thought and expression, which are the aims of this “Theory of Concentration.”

(Concluded in June.)

Teachers' Institute.**INSPECTORAL DISTRICT NO. 5, KINGS AND HANTS COUNTIES, N. S.**

The annual meeting of the Teachers' Institute of District No. 5, embracing the Counties of Kings and Hants, N. S., was held at Berwick, Kings Co., April 30th and May 1st. The first session commenced at one o'clock p. m., and after a short introductory address by the President, Inspector Roscoe, the first paper on the programme was read. The scope of the paper was to present the Best Methods of Teaching Science. The writer emphasized the importance of enlisting the aid of pupils in preparing material and of developing the powers of observation and judgment. It was a most practical and suggestive paper and elicited the hearty support of the Superintendent of Education and others.

Miss O. Smith, teacher of drawing in the Provincial Normal School, Truro, was present by request, and spoke at some length on the subject of Perspective Drawing, and in a clear methodical way taught by diagrams the first principles of this somewhat difficult subject.

Professor J. F. Tufts, of Acadia College, was introduced and gave some valuable hints on the Method of Teaching History. The chief points were, cultivate the reasoning powers by teaching epochs, the general use of larger histories for reference, teach geography with history, the use of some fixed dates, and get the interest of the pupils so awakened that they will see that the subject is most important. The discussion which followed brought out the fact that any book must only serve as a guide. Especial stress was laid on the method of summarizing.

The Institute then adjourned to meet in the evening at eight o'clock in the capacity of a public meeting. It was held in the Baptist church, which was crowded. President Roscoe presided and read a paper prepared by Miss B. Hebb, in her absence, on School Equipment. The paper laid stress on the general furnishings of the school-room, more particularly on the use of charts, models, etc.

E. Hart Nichols read a paper on the Great Men of Nova Scotia, dealing with Johnstone, Howe, Archibald, Parker, Welsford, and made a strong plea for patriotic pupils.

Miss Charlotte Mumford gave a very neatly written paper on Professional Etiquette. It was most opportune, for the spirit of cutting salaries is practised to some extent, and is a growing evil.

The Superintendent of Education closed the meeting with a pithy address, comparing present methods with past, and put in a strong plea for scientific teaching

and its beneficial results. The resident clergymen welcomed the teachers, and the church choir and others supplied suitable music.

On Friday, the first session was divided, taking High School topics and Common School ones in separate rooms.

Murray McNally taught a lesson to Grade IX. on the Distribution of Heat, using apparatus to illustrate his method. It was a most instructive lesson and well taught.

C. W. Brown gave a short outline of his methods of teaching Arithmetic, especially commission, interest, discount, etc., which was well received.

Mrs. R. DeW. Archibald taught a lesson on Minerals to a class of Grade V, and proved herself a good teacher. The leading qualities of minerals were taken up and specimens were given each pupil to examine as to color, hardness, streak, etc.

Miss Ida A. Parker taught a lesson to beginners in Music, which was well received and proved most interesting.

A short lesson on the Metric System by N. A. Osborne, brought the session to a close. Owing to lack of time a part of the programme had to be omitted.

At the closing session, the nominating committee reported officers for the ensuing year as follows, which was adopted. Vice-president, L. D. Robinson; Sec'y-treasurer, J. A. Smith; Executive Committee, A. N. McLeod, M. McNally, Miss L. Scott, Mrs. R. DeW. Archibald.

Five delegates were appointed to Provincial Association which meets at Truro in October, J. F. Godfrey, C. W. Brown, J. A. Smith, Miss B. Hebb, Miss Ida Parker.

Votes of thanks were extended to the Berwick teachers for aid given, and to Miss O. Smith for her instructive teaching.

Superintendent MacKay briefly addressed the Institute, complimenting the district on such a fine attendance (115), and the ardor shown by the teachers in their work, and thought it argued well for the future of this part of the province along educational lines.

The Institute in point of numbers was the largest ever held in this district and was not the least inferior in interest and enthusiasm.

Drawing is the most difficult subject in which teachers are expected to give instruction. It is one in which the best results cannot be expected until the subject has been systematically taught for several years; for teachers must acquire knowledge of the subject, and must then discover the best methods of instruction; they must also have pupils who have been prepared for the work by that given in all the preceding grades.—A. K. Cross.

A Plea for Parental Schools.

[Halifax School Report.]

Experience teaches that truancy laws lose much of their beneficent effect when not supplemented by parental schools.

Even among respectable people there are many children whose misfortune it is to have parents or guardians weak in discipline. But among the poor, on account of the very unfavorable circumstances that sometimes prevail, such cases are very common, especially in towns and cities. Many of these unfortunate children, who might otherwise become useful citizens, go to swell the criminal classes. The strict enforcement of the compulsory act would greatly lessen the number of those who would become habitual truants, and it would save many of them; but they would be saved partly at the expense of those who were made examples, who became the victims of the weakness of their parents, of their own waywardness, and of the false economy of the state.

From general apathy, and from fear of expense, these unfortunate children are made to consort with criminals, and often return to their homes worse than they left them. * *

The fact is that the law, which is very good as far as it goes, will not be efficiently administered, until parental schools are established.

It is good homes, with strong and kindly control, that we need for the boys; not prisons. * *

There are in Halifax many, perhaps thirty, or forty, or fifty children, who are almost certainly going to become criminals if left to themselves, or if sent to some penal establishment to associate with the hardened and to lose caste.

In Massachusetts every county but one has a parental school. Some other states have them also. Toronto has a *model* school of that kind, a school in which the children are brought up under the most elevating influences.

In England truant schools are kept entirely distinct from all kinds of penal schools, and are managed by the school boards. Many parents voluntarily send their children to them, paying their expenses; just as some parents in this city, having partially lost control of their boys, send them away for a time to some private school, where by a good disciplinarian, they may be educated into habits of obedience and industry. It is not looked upon as a disgrace, for they are merely sending their children to a specialist.

Now the establishment of a school of this kind is plainly necessary for Halifax; for if our education is to be universal it must be free and compulsory. Other parts of the province need such a school as well as Halifax. This has become evident in every town where the compulsory law has been honestly tried, as in the town of Dartmouth.

It would then be economical, if at the beginning, a parental school were established for the whole province by the Council of Public Instruction. Such a school would, for several years, develop by experience the best methods, and serve as a model for other similar schools

which, no doubt, will be established in every county within the next twenty years.

Now as to the character of the school to be established. It should be in a country district, and should consist of one cottage, or more than one, according to requirements, each with a few acres of land. The cottages should be large enough to accommodate about twenty five pupils each. There should be a neat school room having a department for manual training. There should be a well kept garden, and the whole establishment should be entirely home like, with no high fences or other jail like appurtenances. The cottage should be in charge of a male teacher, his wife, and one male assistant, and perhaps one or two servants. And here arises the chief difficulty, that of obtaining a suitable teacher. He should thoroughly understand human nature, should be apt to teach, should be gentle and strong, and should be familiar with many forms of manual labor.

In this parental home the utmost regularity would prevail, and good habits would soon be formed. So far as the number of pupils would admit of it, they should be grouped in the different cottages according to age and moral conditions. All housework would be done by the pupils under competent direction. Three hours each day would be spent in school instruction. A few hours each day would be devoted to manual training and to gardening, and a few hours to play.

The cost of such an establishment would not be great, and would be borne in part by the parents according to their ability to pay; in part by the municipality to which the pupils belonged; and in part by the Provincial Government.

It may be said, why not let this work be done by the churches and by charitable organizations? For the very reason that they are unable to do it. For centuries they grappled with the subject of general education and did magnificent work, yet half the people were illiterate. The state, in every civilized country had to step in and aid them. The churches and various societies have been doing a great work in Halifax, and yet there are dozens of vagrants in the streets, and others not yet criminals, are being made to associate with criminals. The churches have neither the money nor the legal status to enable them to cope fully with this crying evil. Experience everywhere shows that the work will not be done unless the state does it.

When dogs, cats and other animals carried long distances on cars and steamers, sometimes confined in bags and baskets, can without asking any questions find their way home, and birds travelling thousands of miles come back year after year to the same nests, and carrier pigeons to their dovecotes, it is pretty sure that they know some things, to a knowledge of which no human being has yet attained. There is a vast field of animal intelligence to be studied, and the more we study, the more we shall be filled with wonder and admiration. *Our Dumb Animals.*

A Good Teacher.

1. Keeps the school-room clean and orderly.
2. Opens the windows a few inches from above on the lee side during study hours.
3. Does not kill pupils for want of pure air.
4. Begins work at nine o'clock, gives one and one-half hours' intermission and dismisses at four.
5. Keeps a true record of attendance, tardiness, classification, etc., and transmits the same to the superintendent.
6. Appeals to the reason rather than the memory.
7. Has time to see the director and also get acquainted with patrons.
8. Trains the child for complete living.
9. Learns the pupil and then teaches him.
10. Does ten thousand other things for pupils not mentioned in the contract.
11. Then "she marries and lives happily ever afterward."

The Poor Teacher.

1. Never sweeps because she "didn't expect company to-day."
2. Opens the windows from the bottom to the windward side three feet or not at all.
3. Kills innocent little children by drafts of carbonic acid gas.
4. Begins school when she gets ready, does fancy work for a few hours at noon and recesses, while the pupils tear down the fences and outbuildings and insults the passer by. And dismisses at three in order to attend the entertainment.
5. Makes reports to the superintendent from her imagination.
6. Does not know any of the patrons, and would not associate with them if she did.
7. Listens to parrot-like recitation of "words, words, words," and calls its "teaching."
8. Blarnies the parent yet despises the child.
9. Prevails upon her relative or friend to become director in order that she may have the same school more than one term.
10. Gets the home school.
11. Dies because of "suspended animation" contracted through keeping school, and the patrons and children "ever afterward live happily.—*Iowa Teacher.*"

It is possible to educate a child to high degrees of virtue, of prudence, of morality, and bliss, though he never learns to read, write, and memorize, and enjoys only an instructive intercourse.—*Basedow.*

Interest.

Interest is the natural and appropriate means leading to learning; and since interest is the appropriate and necessary motive for real and effective study, it becomes a duty to develop interest.

The primary condition of arousing interest is a well-nourished, vigorous brain. There is little use trying to develop a strong, healthy interest in anyone whose physical processes are feeble or deranged. We must not demand a steady, constant flow of interest. If we would call to strong, earnest action, we must give place to relaxation. The teacher who requires his pupil to be at his best all the time, never gets the best out of him at any time. Give your pupils that to learn which will fit them. What they ought to learn depends on what they are prepared to do and to feel, as well as on the intrinsic value of the matter. Interest is contagious. Cultivate in yourself sympathetic interest. Manifest your interest in your pupils freely and warmly. Be sincerely interested in their efforts. Show them how you wish them to succeed. When a pupil has struggled bravely with his little task and has accomplished it, do not mind if an exclamation of sympathetic joy escapes you. "Well done, my boy!" uttered in a really triumphant tone has sent the blood thrilling through many a boy's veins and made his heart throb with a bounding joy.—*W. E. Wilson.*

Kindergarten Principles in Sunday School.

Of the many changes and improvements made in Sunday schools in the past few years, perhaps the most important is the introduction of kindergarten principles in the primary classes. These classes are made up of children ranging from eight years of age and are called Sunday school kindergartens. The term kindergarten in this connection does not mean that the same methods of the everyday kindergarten are used, but simply that the kindergarten principles are applied in teaching children of the kindergarten age. The little folks come each week to these classes and have a happy time singing sacred songs and listening to Bible stories told with the aid of a sand table and models of the buildings and utensils spoken of in Bible history. Teachers everywhere seem to realize the necessity for materials to hold the attention of young children, and the demand for these Sunday school models has increased so rapidly that the concern which makes them is doing a lively business in this line alone. This includes models of the table, water jar, mill, gate, the tomb with its rolling stone, and the book or roll with the twenty-third Psalm printed in Hebrew.—*S. S. Times.*

His Astonishment Grew.

They taught her both Latin and German, then Greek,
And science and physics profound,
Why, the girl really knew, before she could speak,
The world was most certainly round.

She sang like a bird, she could play like the wind;
She danced, she could ride, she could row,
It was rumored there was not a thing on the earth
Of which she was ignorant: so

When he wrote her a note, saying, "I would be pleased
On Wednesday to call once again,"
His astonishment grew at this word he received,
(It cost him the deepest of pain):

"Miss Blank regrets her engagements is such she
will be unable to receive Mr. Gray on Wednesday, but
will be delighted to have him call on the day following."

Trials of a Beginner.

Why don't some of the teachers tell us of their trials outside of the schoolroom, also some laughable incidents? And why don't they confess their early failures and let us know that our schools are no worse than some of theirs were? When I began to teach in the country, I knew my pupils would learn if they would only "behave," and I have spent several years in finding out what will make them "behave."

It is hard to go into a strange neighborhood and quickly gain the confidence of strangers, but, after I gained the respect of the parents, I had no trouble with the children. Perhaps it is with other young teachers as it was with me, I dared not confess any trouble I had at school at my boarding-place, or it flew quickly over the neighborhood and the children heard how nearly they had conquered.

And I wonder if others have had the same "big boy"—not the biggest in the school, but taller than the teacher—who was always respectful, but who was naturally restless and kept his part of the room out of order?

I believe the teacher's social work outside of school hours determines her control of the school. Take an active interest in the affairs of the neighborhood and the place will not seem so dull.—*The Popular Educator.*

READING.—Ideally, in oral reading, the position is perfect and strengthening, the articulation is correct and distinct, the head erect, the lungs have full play, the body responds easily and gracefully to the changing sentiment, the whole physical being is dominated and swayed by intelligence, imagination and the highest emotions. In itself this is a health-giving and uplifting exercise.—*F. S. G.*

Spring Lessons.

The joyous spring is come again; the moth flutters its feeble wings, and leaves its deserted winter home, the catkins hang their grey, yellow, and red fringes forth to the breeze, and happy children bring in the treasures of the woodland to adorn their teacher's desk. Every schoolroom window sill, we hope, is like our own, full of boxes and pots of plants and seeds, and every school blackboard is blooming with trillium, hepatica, marsh-marigold, and trailing arbutus. On our wall hangs a large-leaved calendar, on which are the records of observations of weather, birds, insects, and plants, made by the children since the first of March; the observations, which, by the way, are very numerous on Saturdays and Sundays, are written around the dates on which the observation was made, as, "First robin seen by J. H.," written on March 10th. We have kept our eyes upon the budding trees, and have noticed that the chestnuts buds are sticky," and further on have seen the bud-wrappings unclose and the taper fingers of the leaf peep out of its winter glove, so softly lined. To-day we have seen the branches "that just begin to feather with their leaves," this time next week the chestnut will have all its tassels hanging greenly in at our windows. What grander lesson can we teach our pupils than the charming story of spring's renewals, so like the mystery of life after death! What care has been taken, ever since the last withered leaf fell from the tree, that there should be the myriad leaves of to-day ready to greet the May-day! No fairy tale can interest and charm like this story of the awakening of the flowers. And what a power we give pupils, when we lead them into enjoying the everyday beauties of the world.

"I take the land to my breast,
In her coat with daisies fine;
For me are the hills in their best,
And all that's made is mine."

"I grant to the wise his meed,
But his yoke I will not brook,
For God taught me to read—
He lent me the world for a book."

To this end, the wise teacher will use the material so lavishly brought to her these spring days, and teach the children lessons whose value they can have no estimate of. Besides the botany, simple as given in the Reader, "The Flower" being the lesson taken, a search may be instituted for references to springtime and its beauties. The Readers having been searched, other books of poetry may be examined. Tennyson, Longfellow, Moore, Burns, and any others convenient to get may be searched, the children writing out or memorizing the extracts they find. It is wonderful how interest is shown in such a search, by the parents as well as the children. Wordsworth gives us some rare dower notes, truthful to nature. * * Longfellow is especially attentive to the growing flowers, noting them with true poet's eyes and tongue. His "Birds of Killingworth" makes a fine reading for an Arbor Day celebration, also "Flowers," "An April

Day," and "It is not Always May," while "Hiawatha" and "Evangeline" are full of rich nature-touches. Nothing can surpass "The May Queen" for the beauty of its references to flowers. There are many gems of Tennyson's that are quite within the range of young children. There is a child-song, "The City Child," which would be sure to please:

"Dainty little maiden, whither would you wander?
Whither from this pretty home, the home where mother dwells?
'Far and away,' said the dainty little maiden,
'All among the gardens, auriculas, anemones,
Roses, and lilies, and Canterbury bells.'
'Dainty little maiden, whither would you wander?
Whither from this pretty house, this city house of ours?
'Far and away,' said the dainty little maiden,
'All among the meadows, the clover and the clematis,
Daisies and king-cups and honeysuckle flowers.'"

"The Grasshopper," "Nothing Will Die," "Marina," "The Flower," are all poems suited to children's capacity.

So our spring lessons may grow, perhaps beyond our time-limit, for time is truly short so near the midsummer examinations. But we are building, the children are growing as the flowers themselves are growing, and

"We must not tear the close-shut leaves apart;
Time will reveal the calyxes of gold."

We need the patience of the seed-sower and the gardener, who wait for the slow growth of the plant until it reaches, by degrees, its full perfection.—Miss M. A. Watt in *Educational Journal*.

Common Colors which Harmonize.

Violet with golden yellow.
Ultra-marine blue with golden orange.
Blue with orange.
Turquoise blue with scarlet.
Emerald green with red.
Yellowish green with crimson.
Greenish yellow with magenta.
Yellow with purple.

Colors which do not Harmonize.

Violet or golden yellow with red or emerald green.
Purple or yellow with scarlet or turquoise blue.
Magenta or greenish yellow with orange or blue.
Crimson or yellow green with gold orange or ultra-marine blue.

In every school-room there should be good typical examples of all the common colors. The pupils should be taught to name them readily, and to know which harmonize and which do not.

TEXT-BOOKS.—The disadvantage of the text-book in the upper classes of the elementary schools are lack of intelligence and interest—a fatal defect unless it can be overcome; the advantages are the opportunities for exactness and thoroughness. The two elements should be thoroughly blended—text-book work and oral instruction. The extremes to be avoided are fact-cramming on the one part and flowing talk on the other.—Dr. Hinsdale.

PRIMARY DEPARTMENT.

Seat-work for Primary Pupils.

Let pupils copy the following sentences, filling blanks correctly:

1. A bird has — wings
2. Two birds have — wings.
3. A boy has — ears.
4. Three boys have — ears,
5. A cat has — legs.
6. A wagon has — wheels.
7. Two wagons have — wheels.
8. A bee has — wings.
9. Two bees have — wings.
10. A fly has — wings.
11. Three flies — wings.
12. A cow has — horns.
13. Three cows have — horns.
14. A horse has — legs.
15. Two horses have — legs.

—School News.

For Rainy Recesses.

When the boys and girls are seated give each one a paper and pencil; then each one present in turn must say aloud one word—a noun, adjective, or verb—and then these words must be written down by each one on his slip of paper. Supposing there were ten people, there would be ten words, such as, for instance: Dog, girl, Thanksgiving day, grandma, fine, walking, laughing, kind, grand, poor. Now, when all the words are written some one says, "Ready," and then each person must begin and write a story bringing in every one of the words given, and the stories must be written inside of ten minutes. Then they are all read aloud to the amusement of the whole company.—*The Ram's Horn*.

Teaching Multiplication.

"A primary teacher" asks for a "new method of teaching children to multiply."

If this teacher were not young she would have learned, ere this, that all methods of teaching multiplication are a "delusion and a snare."

Various methods have been suggested by teachers and writers, but we soon learn, by experience, that no way is better than to teach "the lines."

We should use objects, at first, to teach them the principle. Flowers, sticks, circles of paper, or marks on the board may be used. The second and third lines may be taught in this way, but beyond this we need not use objects. When they have learned what "multiply" means, the easiest and surest way is to let

them learn the lines. William Hawley Smith makes Amy Kelly teach "Dodd" the table in that way, and says:

"The multiplication table, that had been the bane of his school life up to date, and which, under the stupid management of Amos Waughops, and the over-wrought Grube method of Miss Stone, had floored him in every tussle he had had with it, now grew tractable and docile, a creature submissive to his will, and quick to do his bidding, unhesitatingly.

And what wonder, when Amy taught him this early work in numbers by use of his memory, rather than his reason: using a faculty that is strong at this period of life, rather than one which has hardly begun to sprout."

After the table is learned we use a set of charts made on heavy cardboard containing the 66 combinations of the table, thus:

	6	7	8	9	10	11	12
×	2	3	4	5	6	7	8

These charts we sometimes use for written work, for seat work, or for rapid oral work. Pointing to a combination the answer is given instantly, without naming the process.

This enables them to recognize combinations in different situations, but, at first the law of association will aid the memory to keep fast hold of what has been learned in "the lines."

In my early experience, some noted professor or superintendent stated that the table could be learned in three days, and gave his method. With infinite trouble and worry one class learned by this method and, at the end of the year, were sent out without having learned the lines.

It was the weakest class in multiplication of any in my experience, because if a product was forgotten, there was no fixed association of other numbers with it, to call it to mind again. *C. H. Parker in Primary Educator.*

Primary Reading.

Children cannot read until they are perfectly familiar with small words—can recognize them at sight. If it be attempted before this is accomplished, the reading is slow, laborious and dull.

Many of our poor readers in the upper grades are so from a slovenly habit that come from lack of proper drill. The bright boy or girl will soon learn to recognize words, but the slow ones must have the right kind of drill and plenty of it.

Every child who enters school has a vocabulary of from two hundred to three hundred words. The first few years of his school life the teacher merely teaches him the written and printed forms of words he already knows. —*Ex.*

QUESTION DEPARTMENT.

STUDENT. Would you kindly explain the working of the following question in the next issue of the REVIEW, Hamblin Smith's Arithmetic, page 292, question 339, viz: If in a meadow of 20 acres the grass grows at a uniform rate, and 133 oxen consumes the whole of the grass on it in 12 days, or that 28 oxen 5 acres of it in 16 days, how many oxen can eat up 4 acres of it in 14 days?

In the REVIEW for June, 1894, a question is worked similar to this. Refer to your file. If you are a new subscriber, we will send you that number on application. —*Ed.*

A. P. (1) How many sides has an equiangular polygon, four of whose angles are together equal to seven right angles?

By a simple exercise. All the interior angles + 4 right angles = twice as many right angles as the figure has sides. Let the figure have x sides. Then $\frac{7}{4} \times x$ right angles + 4 right angles = $2x$ right angles.

$$\frac{7x}{4} + 4 = 2x$$

$$x = 16 = \text{number of sides.}$$

If the figure is equilateral, as well as equiangular, the geometrical proof would be simpler.

(2) Nine gallons are drawn from a cask full of wine and it is then filled up with water; then 9 gallons of the mixture are drawn and cask is again filled up with water. If the quantity of wine now in the cask be to the quantity of water in it, as 16 is to 9, find how much the cask holds.

After water is put in the first time, $\frac{x-9}{x}$ part of the contents is wine. Of the 9 gals. drawn the second time, $\frac{x-9}{x}$ parts is wine. So the wine drawn the second time is = $\frac{9(x-9)}{x}$ gals.

Therefore the wine left in the cask = $x - 9 - \frac{9(x-9)}{x}$ gals., and the water = the wine taken out = $9 + \frac{9(x-9)}{x}$

$$\text{Therefore } x - 9 - \frac{9(x-9)}{x} : 9 + \frac{9(x-9)}{x} :: 16 : 9$$

$$x^2 - 9x - 9x + 81 : 9x + 9x - 81 :: 16 : 9$$

$$x^2 - 18x + 81 : 18x - 81 :: 16 : 9$$

$$x^2 - 18x + 81 : 2x - 9 :: 16 : 1$$

$$x^2 - 18x + 81 = 32x - 144$$

$$x^2 - 40x = -225$$

$$x = 45 \text{ gallons.}$$

(3) Solve $x^2 + y^2 + z^2 = 50$ (1)
 $yz + xy - zx = 7$ (2)
 $xy - yz - zx = 47$ (3)

Multiply (2) by 2, $2yz + 2xy - 2zx = 14$ (4)
 Subtract (4) from (1) $x^2 - 2yx + y^2 - 2xy + zx + z^2 = 36$ (5)
 Factoring (5) $(x - y + z)^2 = 36$ (6)
 $x - y + z = \pm 6$ (7)

Similarly by adding twice (3) to (1) we get
 $x + y - z = \pm 12$ (8)

Adding (7) and (8) we get $x = 9$ or -9 or 3 or -3 (9)
 Put $\pm 3 = x$ in (8) $y - z = \pm 9$ (10)
 Put $\pm 3 = x$ in (1) $y^2 + z^2 = 41$ (11)

From this we easily get $y = \pm 4$ and $z = \pm 5$
 or $y = \pm 5$ and $z = \pm 4$

Thus squaring (9) $y^2 - 2yz + z^2 = 81$ (12)
 Subtracting (10) from (11) $-2yz = 40$ (13)
 Subtracting (12) from (10) $y^2 + 2yz + z^2 = 1$ (14)
 $y + z = \pm 1$

Adding (14) and (9) $2y = 10$ or 8
 $y = 5$ or 4 , etc.

SCHOOL AND COLLEGE.

Arbor Day was observed in St. John and Charlotte Counties (Inspector Carter's district) on Friday, May 8th just the right time. The day was pleasant, weather dry, and the trees and shrubs in that condition of budding that would make the planting successful, if other conditions were observed. In St. John City the day was observed by plantings in window boxes, decorating rooms with a profusion of house plants, and lessons on plant life. The Horticultural Association planted trees on the squares, and many of the school children were allowed to participate, or be present as spectators.

We doubt not if town and village improvement societies would join forces with the schools on Arbor Day excellent results would follow.

Arbor Day will be observed in other sections of the province May 15th. Would it not be an excellent plan where teachers see that they can make improvements in the way of observing Arbor Day, to jot down notes while the subject is fresh in their minds, and begin to institute preparations now for next Arbor Day?

At a recent meeting of the executive of the Charlotte County Teachers' Institute it was decided to hold the meeting on the 17th and 18th of September at St. Stephen. The date was made earlier than usual in order to enable the Island teachers to attend. A good programme has been arranged, which will include some practical work, and, it is hoped, an address from one of the women trustees.

Mrs. John McGibbon and Miss Stevens have been appointed trustees for St. Stephen, and Mrs. W. D. Graham and Mrs. Irving Todd for Milltown. The appointments are regarded as excellent ones.

Inspector Carter hopes to visit the schools on the islands of Charlotte County during June.

At the close of his work of inspection in St. Stephen, Inspector Carter had a conference with the teaching staff. He also accepted an invitation to attend the first regular meeting of the school board at which the lady members were present.

Mrs. R. C. Skinner has, since her appointment as trustee, visited several of the city schools of St. John.

The Milltown school board has enacted that none but first class teachers be employed in future.

Many of the teachers of both sexes have invested in bicycles.

Mrs. Dever, wife of Senator Dever, has been appointed a school trustee for the city of St. John. This makes the full complement of eleven trustees—nine gentlemen and two ladies.

Arbor Day was observed in the Charlottetown schools on the 8th inst. with appropriate ceremonies.

Messrs. Parlee, Barry and Hay, the committee appointed to draw up a constitution for a teachers' association in St. John, having completed their work, called the first meeting on Saturday, April 25th. There was a large attendance of the city teachers. The constitution, as proposed, was adopted with a few amendments, and the original committee, together with nine additional members, was appointed to draw up a set of by-laws. It was decided to defer the election of officers until the next meeting, which will be called as soon as the committee is ready to report. Mr. Thos. Stothart acted as chairman, and Mr. M. D. Brown as secretary.

During the last month Inspector Carter invited the St. John School Board to confer with him and the city teachers. The invitation was accepted and one session ordered in the schools on that day. Mrs. R. C. Skinner and trustees Allen, White, Baskin and Gorman were

present. The following programme was submitted for discussion: "1. The advantages that would follow the supply of slate pencils, pens and stationery to pupils by the school board. 2. The best system of grading pupils in the city schools. 3. The advisability of making plain sewing a compulsory subject for girls on the curriculum. What is the best alternative for boys in mixed classes? 4. Should the school hours be changed so as to allow a noon recess of two hours and more evenly balanced sessions for primary schools? Should there be one daily session for high schools? 5. The benefits that would be conferred upon teachers and schools by the provision by the school board of a room for the use of teachers at all times, in which they could meet and equip with a professional library and as a reading room. 5. Is it desirable to have official examinations for entrance to the high schools?" Time permitted dealing with but three of the topics. The first was discussed and the principle affirmed. The subject of grading provoked an animated discussion. There was considerable difference of opinion, but the majority of the teachers inclined toward the present system. Trustee Baskin took part in the discussion of this subject. In the matter of a change in the school hours, there seemed to be a very decided objection to any change. Supt. March intimated his intention of calling the teachers together again at an early date to further consider the question of grading. At the close of the meeting pleasant addresses were made by Mrs. Skinner and Dr. White.

BOOK REVIEWS.

HISTORICAL RECORDS OF THE N. B. REGIMENT CANADIAN ARTILLERY. Compiled by Capt. J. B. M. Baxter, for private distribution. Published by the Sun Publishing Company, St. John. In the beautiful volume compiled by Captain Baxter, and published by the officers of the New-Brunswick Regiment of Artillery, there is presented not only a history of this corps, but, in a measure, the history of St. John City from 1793 to 1896. There will be found in it not only the men who figured in military circles, but those who have occupied, and are now occupying, prominent positions in the city and province. Capt. Baxter, in collecting and placing on record so many interesting reminiscences of his regiment, has made a valuable contribution to local history.

HINTS ON TEACHING ARITHMETIC, by H. S. MacLean. Pages 108. Price 30 cents. The Copp Clark Co. (Ltd.), publishers, Toronto. The author of this little work presents in brief form what he considers the most important features in the study of arithmetic, accompanied with a large number of practical exercises. It will be found very helpful to teachers in giving directness and system to their work.

STRANG'S GRAMMATICAL ANALYSIS, by H. J. Strang, B. A. Price 40 cents. The Copp Clark Co. (Ltd.), Toronto, publishers. This contains a great number of selections and passages for practice in analysis, and will be found useful to teachers in preparing pupils for examination.

HYDRIOGRAPHY AND THE GARDEN OF CYRUS, by Sir Thomas Browne; edited by the late W. A. Greenhill, M. D. (Oxon.). Pages 208; price 2s. 6d. Publishers, Macmillan & Co., London. The publishers have done good service in re-publishing this quaint and interesting classic first published by Sir Thos. Browne in 1658. The first part of the volume on Hydriographia "Urne-buriall, or a Discourse of the Sepulchrell Urnes lately found in Norfolk," is unique in character and full of charm in the way the subject is handled. "The Garden of Cyrus" is a quaint collection of notes on botany and gardening, and will be of interest in all time to the plant student.

MACMILLAN'S GEOGRAPHY READERS. Book VII. Pages 240; price 1s. 6d. Publishers, Macmillan & Co., London and New York. This charming series of books will, we hope, find their way in the hands of all the pupils of our schools through the medium of school libraries. The present volume is full of interesting stories of American scenery and incidents, illustrated with maps and pictures.

PRACTICAL INORGANIC CHEMISTRY, by G. S. Turpin, M. A., D. Sc. Pages 158; price 2s. 6d. Publishers, Macmillan & Co., London and New York. This little manual combines theory and practice in an admirable manner. Its directions for experiments, with the clear illustrations, are especially excellent.

MILTON'S PARADISE LOST, Book III. Edited with introduction and notes by M. Macmillan, B. A. (Oxon.) The importance of this book, in addition to the notes on the text, is the admirable essay in the introduction on the character and works of Milton.

ADVANCED CHEMISTRY FOR HIGH SCHOOLS, by W. S. Ellis, B. A., B. Sc. The Copp, Clark Co. (Ltd.), Toronto, publishers. This book is intended to cover the practical work in chemistry prescribed for the honor matriculation and senior leaving examinations in the Ontario collegiate schools, and would serve as a manual for those pursuing an advanced course in chemistry.

POPE'S ESSAY ON MAN, with introduction and notes by E. E. Morris, M. A. Pages 93; price 1s. 9d. London: Macmillan & Co., and New York. The introduction gives a sketch of the life of Pope, with a review of his works, including the Essay on Man. The notes are scholarly and concise.

GRIMM'S FAIRY TALES. Part II. Edited by Sara E. Wiltse. Pages 234; price 45 cents. Published by Ginn & Co., Boston. This volume offers a wider range of stories than Part I, and will prove even more interesting.

MACAULAY'S BOSWELL'S LIFE OF JOHNSON, by R. F. Winch, M. A. Pages 131; price 2s. 6d. Publishers, Macmillan & Co., London and New York. This is an excellent annotated edition of Macaulay's essay on Boswell's Life of Dr. Johnson. If one has read Boswell, he will read this with a keener interest, deriving much assistance from the suggestive notes.

THE ADVENTURES OF HATIM TAI. Revised and edited with introduction by W. R. Alger. Pages 326; price 50 cents. Publishers, Ginn & Co., Boston. This delightful romance is published in "Classics for Children," a series that has done very much to adapt and provide wholesome reading for young people. The general character of this romance is like the Arabian Nights Entertainments. The story is fascinating, abounding in startling adventures, and no reader can rise from the perusal of the book without quickened impulses for good.

HEART OF OAK BOOKS, edited by Charles Eliot Norton. D. C. Heath & Co., publishers, Boston. This series, comprising six reading books, attractive in contents and finish, is an ideal series in its way. It draws freely from the standard imaginative literature of the English language, a literature with which every child should be familiar, as it has stood the test for centuries, and has done much to stimulate the fancy and direct the thought and sentiment of the best men and women of the English speaking race. A series of books like this will do very much to direct the taste of children and promote a healthy development of the imagination.

THE ART OF PUTTING QUESTIONS. A pamphlet containing many useful and suggestive hints on this important phase of school work. Published by C. W. Bardeen, Syracuse, N. Y. Price 15 cents.

THE ARDEN SHAKESPEARE: *Macbeth* and *As You Like It*. Price 40 cents each. D. C. Heath & Co., Boston, publishers. These two volumes in Heath's "Modern Language Series" have been before us for some time. They are handsomely printed and bound, convenient for study, with critical notes on the text, a glossary, an introduction containing the sources of the play, etc., and an index. They are edited by competent English scholars, who aim to present the plays of Shakespeare in their literary aspect, and how best to interpret them, not merely as material for the study of philology and grammar. Other plays will be issued shortly. The plan and execution of this series will commend them to students.

THE NATIONAL DRAWING COURSE, by A. R. Cross. Publishers, Ginn & Co., Boston. In this course there are drawing books for the 4th, 5th, 6th, 7th and 8th years. These books presuppose some preliminary teaching. They begin with outlines of simple objects and designs. Much attention is given to the historic development of art, beginning with Egyptian. There are in each book about twenty-five pages of neutral tinted paper of excellent quality. There are appropriate direc-

tions regarding instrumental perspective and free-hand drawing, and many beautiful illustrations of the works of master artists. For the first three years there is a set of elementary cards to be used with a transparent drawing slate. With the use of this slate young children very soon learn the difficult lesson of seeing the characteristic lines of objects on the flat. A box of skeleton models is also provided for the course. By simple devices they can be combined so as to represent all the primary forms. For the use of teachers there are manuals on "Primary Lessons" and "Grammar Lessons," also treatises on Mechanical Drawing, Free-hand Drawing and Color Study. Taken all together this forms by far the most scientific and practical course in drawing that we have ever seen.

SOUTHEY'S LIFE OF NELSON. Edited with an Introduction and Notes, by Albert F. Blaisdell, x + 242 pages, price, 50 cents. Ginn & Co., Boston, publishers. This edition of Southey's masterpiece in the "Classics for Children" series is more particularly intended for school use. The editor has prepared an introduction and supplemented the text with a suitable number of notes. A few passages which have little or no interest at the present time, have been omitted. No alterations have been made in the wording, and the text stands as it was originally written by Mr. Southey, with the exceptions mentioned.

May Magazines.

In *McClure's* for May Dr. W. W. Keen describes the Use of the Rontgen X Rays in Surgery, showing that while the organs of the body enclosed in bone have not yet been successfully skiagraphed, on account of the impermeability of the bones to the rays; yet that the bones themselves have been very successfully distinguished, and on that account successful surgical acts that could not otherwise be performed may be accomplished. . . . In the *Forum* for May are two timely articles, —Is the Power of Christianity Waning? No! By Dr. H. J. Carroll, who had charge of the religious census, and The Cultivation of Vacant City Lots, by Mr. M. A. Mikkelsen, describing the successful results in New York of this novel plan for relieving the unemployed. . . . An out-door flavor is given to the May issue of the *Atlantic Monthly* by Mrs. Olive Thorne Miller's Whimsical Ways in Bird Land, another of her bird papers which have won for her a wide reputation as an acute observer and graceful writer, and Pandean Pastimes, an out-door study of Spring from a child's standpoint, by Mrs. Fanny Bergen. . . . In the *Popular Science Monthly* for May Natural Science in a Literary Education is the subject of an article by Prof. A. H. Tolman, who maintains that only a one-sided training can be had without science. . . . In recent numbers of *Littell's Living Age* there have been some capital educational articles—Recent Science, Rontgen's Rays, The Baltic Canal, and how it came to be built, an Educational Interlude, The Philosophy of (Examination) Blunders, On Some Books for Boys and Girls. The price of this excellent weekly magazine, formerly \$8.00, is now only \$6.00.

N. B. EDUCATION DEPARTMENT.

Departmental Examinations, 1896.

I.—LICENSE EXAMINATIONS.

Final examinations for Grammar, Superior and Common School Licenses, Classes I and II, will be held at the Normal School, Fredericton, at the Centennial School Building, St. John, and at the Y. M. C. A. rooms, Chatham, beginning on Tuesday, June 9th, at 9 o'clock a. m. Candidates not in attendance at the Normal School should give notice to the Chief Superintendent on or before the first day of June. No candidate is eligible unless he has passed the preliminary examination for the class desired.

II.—NORMAL SCHOOL ENTRANCE AND PRELIMINARY EXAMINATIONS FOR ADVANCE OF CLASS.

All candidates for admission to the Normal School in September, 1896, and all holders of second or third class licenses who propose to enter the Normal School in January, 1897, or to become eligible for examination for advance of class in June, 1897, are required to pass the preliminary examinations, beginning on Tuesday, July 7th, at 9 o'clock a. m. (See School Manual, Reg. 31, 3, and Reg. 38, 6).

Candidates are required to give notice to the Inspector within whose inspectorial district they wish to be examined not later than the 24th day of May. A fee of one dollar must be sent to the Inspector with the application.

III.—MATRICULATION AND JUNIOR LEAVING EXAMINATIONS.

These examinations will be held, beginning on July 7th, at 9 a. m., at the same stations as the Normal School Entrance Examinations. Application, accompanied by a fee of two dollars, should be sent not later than the 24th of May to the Inspector within whose inspectorial district the candidate wishes to be examined.

The Junior Matriculation Examinations are based on the requirements for matriculation in the University of New Brunswick, as laid down in the University calendar (candidates will receive a calendar upon appli-

cation to the Chancellor of the University, or to the Education Office.) Any high or grammar school pupil who has completed Grade XI of the high school course should be prepared for matriculation.

NOTE: Elementary chemistry as in Williams' Introduction to Chemical Science (Chapters I to XXX, inclusive), is now required of all candidates for matriculation.

The Junior Leaving Examinations are based upon the requirements of the course of study for grammar and high schools as given in the syllabus for Grades IX and X, and will include the following subjects: English Grammar and Analysis, English Composition and Literature; Arithmetic and Book keeping, Algebra; Geometry; History and Geography; Botany and Physics, and either Latin or French, or Chemistry, or Physiology and Hygiene. (Eight papers in all.)

The pupils of any school in the province are eligible for admission to this examination. Diplomas are granted to successful candidates.

The stations at which the Entrance, Matriculation and Leaving Examinations will be held are the following: Fredericton, St. John, Moncton, St. Stephen, Woodstock, Chatham, Bathurst, Campbellton, Andover and Hillsboro; provided, however, that if less than twelve candidates ask to be examined at any of the stations named, no examination shall be held at such station or stations, and the candidates who have chosen to be examined at such station or stations will be instructed to present themselves at some of the other stations.

The Department will supply the necessary stationery to the candidates at the July examinations, and all answers must be written on the paper supplied by the Supervising Examiners.

In the June examinations the candidates will supply their own stationery.

Examinations for Superior School License will be held both at the June and July examinations—on the first day and evening. No fee required.

Forms of application for the July examinations will be sent to candidates upon application to the Inspectors or the Education Office.

J. R. INCH,

Education Office, May 1st, 1896.

Chief Sup't Education.

PROGRAMME.

NEW BRUNSWICK EDUCATIONAL INSTITUTE.

NORMAL SCHOOL, FREDERICTON.

June 29th to July 2nd, 1896.

MONDAY, 3.00 P. M.	Meeting of Executive Committee.	WEDNESDAY, (Dominion Day).	An Excursion will be planned for members of the Institute.
" 8.00 "	Public Reception Committee.		
TUESDAY, 9.30 A. M.	Enrolment, Election of Secretaries and Nominating Committee.	THURSDAY, 9.00 A. M.	Elections (a) of Executive Committee; (b) of Representative to Senate of U. N. B.
" 10.30 "	Opening Address by the Chief Superintendent.	" 10.30 "	<i>Correlation of Studies</i> , by Eldon Mullin, M. A., Geo. U. Hay, M. A., Geo. J. Trueman, B. A., and E. W. Lewis, B. A.
" 11.30 "	<i>Secondary Education</i> , by A. B. Maggs, B. A., Principal of Queen's County Grammar School.	" 2.30 "	<i>The Mutual Relations of the University and the Public Schools</i> , by Prof. W. F. Stockley M. A., University of New Brunswick.
" 2.00 P. M.	<i>The Problems of the Country School</i> , by Miss Bessie Fraser, Grand Falls.	" 3.30 "	General Business.
" 3.00 "	<i>School Hygiene</i> , by Walter W. White, B. A., M. D., St. John.		
" 8.00 "	<i>Ethical Culture</i> , by Professor W. C. Murray, M. A., Dalhousie College, Halifax, N. S.		

The usual arrangements for reduced fares will be made with railways and steamboats lines.

JOHN BRITAIN, *Secretary.*