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MISSING

The Educational Review.

Devoted to Advanced Methods of Education and General Culture.

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

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

THE EDUCATIONAL REVIEW.

G. U. HAY, St. John, Managing Editor
W. T. KENNEDY, Academy, Halifax, Business Mgr. for N. S. and Nfld

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Subscribers should promptly notify the REVIEW of change of addresses. Communications from New Brunswick and Prince Edward Island should be addressed EDUCATIONAL REVIEW, St. John; from Nova Scotia and Newfoundland to W. T. Kennedy, Academy, Halifax.

SPECIAL INVITATION.

We invite the Lady Teachers who will visit our City the latter part of this month to call and look at what we are showing in the way of New Summer Wool Dress Goods, Dress Silks, Dress Satens, Cambrics, Prints, Lawns, etc. We have a large variety of Styles at very Low Prices.

Remember our Address.

DANIEL & ROBERTSON,
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Who will, during this month only, send us the names and post office addresses of 20 families (likely to appreciate a sample copy of Progress and to subscribe for the same) and \$1.35 in cash, we will send Progress for six months and the 10 following books,

EAST LYNNE, By Mrs. Henry Wood.	LADY AUDLEY'S SECRET, By Miss M. E. Braddon.
JANE EYRE, By Charlotte Bronte.	JOHN HALIFAX, GENTLEMAN By Miss Mulock.
VANITY FAIR, By W. M. Thackeray.	THE LAST DAYS OF POMPEII, By Sir E. Bulwer Lytton.
ADAM BEDE, By George Eliot	THE THREE GUARDSMEN By Alexander Dumas.
THE WOMAN IN WHITE, PUT YOURSELF IN HIS PLACE By Wilkie Collins.	By Charles Reade.

NAMES AND CASH

are what we want, one is as important as the other. This is the greatest offer we have ever made. The books are handsomely bound in paper and you cannot get them from any book store for less than 25 or 30 cents each. We make the offer in order to get the names of people who would probably like to take Progress. We place faith in your judgment and rely upon you to choose the names with care, avoiding all those who get the paper now. We are also anxious to test the value of an advertisement in this journal.

EDWARD S. CARTER, Publisher.

N. B. If you want the book sent by mail send 14 cents in stamps or make your post office order \$1.95. By the way, we still have that great bargain, Allen's reprint of Webster's Dictionary, for \$1.95, or rather with Progress for one year for \$3.95,—the paper must go with the book.

THIS number of the REVIEW is published earlier than usual. Do not look for the next before the 20th of August. It will contain reports of the Summer School of Science and the Dominion Educational Convention.

QUITE a large party of teachers have gone to Montreal to attend the Dominion Educational Convention.

PROVINCIAL INSTITUTE.

The meeting of the New Brunswick Educational Institute, a summary of the proceedings of which will be found on another page, was one of the most successful that has ever been held in the province. The papers and addresses were of more than ordinary excellence, the discussions were marked with earnestness and ability, and there was a promptness of action observable throughout. The courtesy and tact with which Chief Superintendent Inch conducted the Institute has deepened the esteem in which he is held by the teachers of the province.

At the public educational meeting held under the auspices of the Institute, Lieutenant Governor Sir S. L. Tilley, in speaking of the forces that produce the best results in the school-room, said that the love and sympathy between teacher and pupil were of the greatest importance. He was right, and the kindly nature of Sir Leonard Tilley, and the warm regard in

which he is held by the people gave weight to the remark.

Rev. J. deSoyres urged a closer union of the several institutions of our educational system; the Normal School to be a branch of the University, to which might also be affiliated that excellent institution, the St. John Business College.

The burden of too many studies upon children, touched upon by the Rev. J. deSoyres, coupled with a remark made by Chief Superintendent Inch during the proceedings of the Institute—that *all* subjects of the curriculum should not be regarded as of equal importance—ought to be carefully weighed by teachers.

Rev. Dr. Macrae, in remarking upon the preponderance of lady teachers, touched upon the fact that the principle of "Payment for Results" ought to rule in regard to teaching as in all other departments of business, and that until this was achieved education could not be said to have done its work. His contention was, that if he bought a pound of sugar from a woman he paid for it at the same rate as if purchased from a man; so with teaching, equal work, whether done by man or woman, ought to be equally remunerated, and until this is the case we are still barbarians. And all right thinking men and women agree with Dr. Macrae.

Next, referring to the scanty emolument to teachers in any case, and that they were public officials in the highest sense of the word, Dr. Macrae referred to the subject of pensions for the aged and infirm. It seemed to him monstrous that while the mechanical work of the post-man, for example, involves a pension in due time, the mental, in addition to the physical and mechanical toil of the teacher, implies none.

The unanimity shown in discussing the resolution asking that the representation to the senate be opened to the whole body of teachers was most marked, the graduates of the university being perhaps more outspoken in its favor than any other teachers. There can certainly be no valid reasons for restricting the selections except to the whole membership of the Institute, and it is to be hoped that the government will respond promptly and liberally to the proposition. The teachers can be relied on to make a safe and wise selection, and there are many of them not holding college degrees who are quite as well fitted to be representatives as those holding them. As the graduates, not only of the university but of the other provincial colleges, admit this, and are willing to enter into competition with them, there should be no hesitation in any quarter concerning the matter.

The proposition to appoint a committee of teachers

to report at the next meeting of the Institute, for the purpose of taking into consideration a uniform system of grading, was carried by a large majority. The intention of the promoters seems to be that the examination papers shall be set for Grade VIII. by a committee, subject to the approval and control of the Department of Education, and be sent to the different sections of the province where needed.

The scheme has the advantage of uniformity as to the make-up of the papers for all the schools, but that it will secure a uniform standard of values does not seem so clear. Any additional machinery introduced into the work of the schools will be regarded with suspicion by the teachers, and probably will be opposed by many districts where school accommodation and expediency in the matter of grading are the factors most largely taken into consideration.

The report of the committee will be awaited with interest.

N. S. Educational Exhibit at Chicago, 1892.

A great international exhibition is to be held in Chicago next summer—the greatest the world has yet seen. Some of the Canadian provinces will have a grand educational exhibit there, to show the nations what is done in Canada. How will Nova Scotia acquit herself? Now is the time for teachers to commence preparations. Specimens of maps, drawing, writing, wood-work, clay-work, from each grade will be required to show how we carry out our course of study in actual work. Pity we could not send some of the trained heads and fingers there. This we cannot do, but every kind of work done in the kindergarten, common, high, special, public and private schools should be represented, containing on the label with the name and school, the age and grade. Colleges, seminaries, training schools of all kinds are also included. School collections of natural history, physical and chemical apparatus, books, etc., should be represented. Education laws, reports, university calendars, etc., all well bound, should be there. Now is the time to begin.

THE SESSION of the Summer School of Science, which opens in St. John on Monday evening, August 1st, will, from present appearances, be largely attended. Arrangements are being made to secure the comfort of those who attend. Intending visitors should make early application for boarding houses, stating what price they wish to pay. Arrangements have been made for reduced fares by rail and steamer, and the advertisement of the School in another column should be carefully read as to particulars. A large gathering from Nova Scotia is promised, and the New Brunswick teachers are expected to be present in considerable force.

For the REVIEW.]

TEXT-BOOKS.

Wherever there is a public school there is a demand for text-books. They are all desired for the same purpose—as aids in teaching any given subject; for example, arithmetic.

Is there any reason, then, why the public school arithmetic of New Brunswick should be different from that of Nova Scotia, or either different from those of the other provinces? In Nova Scotia we use two books on the subject, both published in Ontario. If they be the best of their kind, why not have them prescribed for the whole Dominion, or for as many provinces as possible?

What we need in a text-book is fitness for the purpose intended, durability and cheapness. The first are necessary to obtain the greatest good from their use and monetary value for the outlay. Cheapness will, of course, be relative to excellence of plan and material.

Now we know that the greater market there is for an article the cheaper it can be sold, because larger quantities can be manufactured at less cost than smaller. We also know that part of the amount so saved in manufacture can be used to make a better article without increasing the cost or lessening the profits. Does it not follow that if, instead of two or three divisions of the whole Dominion using one text-book and one or two others another, and without any united action on the part of the several councils of public instruction or teachers of those provinces, that it would be better, in every way, for them to unite, agree upon some text-book and say to the publishers, "What can you let us have that book for, if we prescribe it in all our schools?"

It will be said that you cannot get educationists of so vast a country as ours to so agree. This may be true to some extent; but the objection is not so great as it might have been years ago. Those who now live five hundred miles apart are nearer to one another than those who were separated by only fifty miles thirty years since.

We have associations of teachers assembling annually in which are representatives from nearly all parts of the continent. In a few days representatives from all the leading educational centres of the Dominion will meet in Montreal. Will any one say that at that convention a committee could not be appointed capable of recommending a text-book on arithmetic suitable to the wants of any section of the country?

It may be that there is no book published that meets the views of our teachers or that could be fully approved by any such committee. If this is the case,

then it would be their office to select the best in their estimation, and also to suggest the changes and improvements in the work or works selected.

It seems to me if each province were fully represented on such committee, that every province would have text-books better adapted for use in its schools at a greatly reduced price to the purchaser. There is no doubt that the different councils of public instruction would authorize the use of a work so recommended. There would, of course, be some difficulties in the way. Publishers and authors of text-books now in use who could not hope to compete in the manufacture and compiling of the improved work, would no doubt oppose a change. Yet, if the scheme is a good one, their opposition ought not to count for much. I have only mentioned the one subject in the foregoing remarks, but they would apply equally to nearly every subject taught in the common schools.

Let us take the vexed question of English Grammar. I find in the civil service examination papers questions that cannot be answered by pupils having a pretty thorough knowledge of the grammar used in Nova Scotia. And questions can be readily framed from the latter that pupils using a different text-book could not easily grapple with. It may be said that it is a poor teacher who confines himself to the text. This is possibly true, but one would have to do some extensive skirmishing to give his pupils even a slight knowledge of the various views held by writers on etymology and syntax. Is it not possible to arrive at a much greater degree of uniformity in the treatment of this subject? I think it is; but it can only be dealt with by large associations such as that of the Dominion.

In fact the whole question is of the greatest importance. It does not require elaboration in this paper. There is no need to go into details. We continually hear complaints from teachers as to the texts themselves and from parents and teachers alike as to their cost and make-up. It seems to me a subject peculiarly proper for the Dominion association to discuss. While on the subject, I may say that I hope the same association will consider the questions of the introduction of the metric system of weights and measures and spelling reform. If it will deal with such questions—ones of widespread interest and affecting all sections of the country—I think it will be entitled to financial support from the provincial governments or from that of the Dominion. O.

Halifax, N. S.

Mr. J. D. Robertson of Moore's Mills' Superior School, and Mr. Wm. Veasey of Grand Harbor, intend entering the University in the autumn.

For the REVIEW.]

NATURE LESSONS.**THE SCHOOL-BOY ZOOLOGIST — No. VII.**

July, and life everywhere, especially insect life. How shall we know these insects, without books and without learning? Books are the results of learning. How, then, came learning? By learning. But how shall we learn? First get your objects. Catch your butterfly, moth, beetle, bug, caterpillar, or worm. Then see what it is like. You will at first see very little. Draw all you can see, if you can draw a line at all. You will be ready then for a book. It will give you names for the parts which you have observed. But no one should use a book instead of his eyes. Sometimes even school teachers are afraid even to encourage their pupils to collect specimens and bring them to the school-room, just because they cannot give the proper name of the specimen. They are afraid of showing their ignorance. It is just the ignorant who are afraid of showing their ignorance. And then what is in a name? It is not knowledge necessarily. A person may know the name of the potato beetle, of the wheat midge, of the gipsy moth, and yet know next to nothing about them. A person may not know their names, and still know enough about their structure, life, habits and industrial effects to form a valuable book.

Commence your collection any way at all. Catch the butterfly with your hat, if you do not know how to make a butterfly net. Catch the beetles with your fingers. But how shall we kill them? Transfixing them with a pin will not do. That might come under the cognizance of the S. P. C. A. Kill a butterfly or moth by a strong pinch of the thorax or breast, right below the wings. The brains of insects are much more in this region of the body than in the head. If properly done it produces instant death. Or let a drop of chloroform, ether, benzine, or gasoline from a small vial which can be carried in the pocket, fall on its head and thorax. Gasoline, worth fifteen cents a gallon, will kill the largest moth more effectively than the more costly chloroform, etc. Spread the wings of your moth or butterfly until they become fixed by drying. Keep the specimens in position by running a pin through the thorax and into the bottom of a cardboard box. This is not the proper way of doing things. For within one year your whole collection of butterflies and moths will be in dust,—eaten by small, nearly invisible insects, the bane of such collections. You will then understand the necessity of paying strict attention to some of the points in my future description of how I mount and have managed to preserve my collections.

Drench the beetles with gasoline or creosote in a wide mouth well corked bottle or jar. A few drops below some paper in the jar or bottle will suffice. Or drop them into a bottle of alcohol. Mount them by pinning through one of the wing covers. They are not attacked by insects as are the moths and butterflies.

Put cocoons in glass jars, etc., and watch for the emergent insect.

Put caterpillars into confinement with their natural food, and watch them develop into the cocoon wrapped pupa state, and finally emerge as the perfect insect or imago.

This do immediately. Next month, if possible, I may give illustrated deviations for making permanent museum collections; and you will be in a position to understand better, and even to criticize, if you first try what you can do without the benefit of the experience of others.

For the REVIEW.]

A Week's Talk About Plants.

At this season of the year, when the children are bringing in the wild flowers, it is most desirable to arouse their interest in plant life, and lay a foundation for the science of botany. This study can be made very interesting even to little children. They can be taught, while still very young, how to distinguish one plant from another, can learn how they grow, and are nourished by the ground, rain, and the air. The following suggestions may be of some use:

MONDAY.

"Children, I have brought something to you today. I was in the woods yesterday, and saw some little friends who were very anxious to visit you. So I resolved to bring one. Here it is" (presenting plant with all parts complete).

They all examine it, and then I proceed with my lesson.

"Who can tell me how I got this plant from the ground?"

"You picked it up," cries one; "You pulled it out by the root," says another.

"Yes, I pulled it out by the root; now, Johnny, can you come and show me which part is the root? Yes. Now, children, where does the root grow?"

"In the ground." "That is right. Now, who can tell me another part of this plant besides the root?"

"Leaves." "Flower." "Yes; but there is still another. What do the leaves and flowers grow on?"

"A stalk." "The stem." "Yes; then there are four parts, the root, stem, leaves and flower. Now, I wonder if any one knows of what use the root is to

the rest of the plant?" "It keeps it in the ground." "Yes; but it does something else for the little plant. What must we do to be strong, healthy children?" "Eat lots of bread and butter." "Yes, that is right, Hattie; and lots of other things, too. Do you think the little plant eats bread and butter to make it grow? No; it gets its food from the earth, and it has not only one little mouth like each of you, but many little mouths with which it sucks in its food. Now, where do you think these mouths are? Yes, at the end of each little root. Now, you see of what use it is. Do you think the stem helps to feed the plant in any way? Yes, it does; because through it the food is carried to the leaves and flower, so that they can grow strong and beautiful. The leaves help in another way, taking in the air, also light from the sun. We've learned a great deal about our little plant to-day. We found that it had root, stem, leaves and flower, and we also saw how each helped to keep the plant alive."

TUESDAY.

"Here we are ready for another talk about our plant. Do you remember me telling you yesterday how the root helped to feed the little plant? Yes, it takes in food from the dark earth and sends it up through the stem to the leaves. Now, I am going to tell you about some other roots that take in more food than they need to make the little plant grow. This they pack away until the root becomes quite big. Then they keep it until the next summer, when they give it to the little new plant until it is able to take food from the earth. Some of these roots are so nice that we eat them." Carrots." "Parsnips." "Yes, those are good." "Potatoes," cries one little voice. "No, Alice, dear, not potatoes; some other day we will talk of them."

"Now, who can tell me another part of the plant?" "Stem." "Would you like to hear something of stems to-day? Well, do you remember what they are for?" "For the leaves to grow on." "Yes, and for the flowers, too. How do they help the little plant to grow? Yes; they carry up the food from the root to the leaves. In the inside of the stem are a lot of little tubes, and through these the food is carried. Are the stems of all plants like this one? (holding up a geranium). Well; how does this stem grow?" "Straight up." "Yes; then we call this an *upright stem*. How many children have peas growing in their gardens? Have they upright stems? No; they have little green fingers called tendrils, and they climb by laying hold of other objects for support. Then we call them *climbing stems*. There is another stem which has no fingers at all, but twines around anything that may be near it. This is a

twining stem, and I wonder who saw a twining stem?" "We have a bean in our garden, and it twines around a string." "Yes; and did you ever hear of a stem growing under the ground?" "Roots grow under the ground." "Yes, but stems do, too. The rose-bush and the raspberry-bush each have stems growing in that way. And some of these underground stems have food stored away in them. Do you know of any? Do you remember a vegetable we spoke of when studying roots? I told you we would talk of it again. Yes, a potato; well, that is an underground stem, made thick because of food stored in it. Now, can you think of any stems *above ground* that we eat? What does mamma buy long sticks of which to make pies? Yes, rhubarb; then that is a stem, as also celery, asparagus. Now, will you try and remember what stems we have as food?"

WEDNESDAY.

"To-day, children, we will look at the leaves. Of what use are they to the little plant? They give it air and they breathe for it. What do we breathe through?" "Our mouths." "Yes, and the leaves have ever so many little mouths. (At this point bring in experiment showing leaves breathing. Putting them in water and covering tightly so as to keep out the air). Willie, if you bring me that calla lily I shall tell you something about it. Look at this big green leaf; do you see little lines running through it? These are called veins; now you may show it to the rest of the children. Do you all see the little veins running along side by side? I wonder who can tell me how they are running?" "Parallel," says Ralph. "Yes, Ralph; you may go the board and show the children how the little veins are in the leaf. Then we say that this is a parallel-veined leaf. Now, I have another leaf (showing maple leaf), and I want you all to look at it. Are these veins all running parallel? No. Well, Mary, you may go to the board and show us how they are. Yes, they are all crossing one another; then we call this leaf a netted-veined one. Now, will you try and remember these two names, and see how many leaves of each you can find? (Form is best studied in September, because of falling leaves). And now, what part of our plant have we not examined? Yes, the flower, and I have brought you a very pretty one (showing a wild rose). Can you tell me why you think it is so pretty?" "The color." "Yes; it has a very beautiful pink dress. And do you know what its dress is called? What does it look like?" "A little cup," suggests Eddie. "Yes, now I am going to let you all see it more closely. Annie may take it around and let you all see it. How many saw the little pink

cup of the wild rose? Yes: did any of you see another cup smaller than the blue one?" "I saw a little green cup," says Freddie. "Yes; where is it?" "Outside the pink one." "Then we have found our flower to have two cups, an outer one which is"—"Green." "Yes, and an inner which is"—"Pink." "Now, I'm going to tell you two other names for these cups. The outer one we call calyx, and the inner corolla. Now, all pronounce them: 'calyx,' 'corolla.' To-morrow we will learn some more about our flower."

THURSDAY.

"We will have a nice talk to-day, children, as I see you have all brought roses, and can look for yourselves. Do you remember what we learned about it yesterday? Yes, it has two cups, an outer and an inner. Can Annie tell me the names of the cups?" "'Calyx' and 'Corolla.'" "Does any one know of what use they are? Well, I will tell you, but first we must find out some other parts of our flower. All look into the corolla and tell me what you see." "Some little yellow stalks," says Agnes. "Do you think they are all of the same size? Yes. Well, I would like you to all look again." "There is a big one with a green top in the middle," says James. "Yes. Now, you may all put your fingers into the corolla and touch the tops of the little stalks. Now, look at them." "Why, mine are all yellow!" "And mine!" "And mine!" "Yes; now you may touch the big one." "That's sticky!" "Do you know what it is you have on your fingers? What does it feel like?" "Flour?" "Powder!" "It is a kind of powder called *pollen*. Can you all say that? Yes; and where did you get this pollen?" "From the little stalks." "That is right; but I am going to give you another name for them. We call them *stamens*. (All pronounce together). Now, would you like to know the name of the stalk with the little green head? It is a funny name, and I am sure all the little boys will remember it. It is *pistil*. Now, what are the little stalks called?" "Stamens." "And the big one with the little green head?" "Pistil." "Now, I am going to tell you something very strange about them. Way down in the bottom of the pistil there is a little room where seeds are; and when some of the powder or pollen from the stamens falls on the pistil, it wakes up the little baby seeds. These seeds then grow and grow until they get quite big, and when Jack Frost comes they fall to the ground. There they get food and water from the earth, and then grow into plants like this one in the spring."

FRIDAY.

"This is the last day we shall talk about our little flower, and I want to see how much you have learned

about it. Who can tell me all the parts of our wild rose?" "Calyx," "Corolla," "Stamens" and "Pistil." "Now, of what use do you think the calyx and corolla are to the stamen and pistil?" "They keep them warm." "Yes, and keep Mr. Wind from blowing them down. They are useful in another way. Some little stamens like to give their pollen to other flowers, and when Mr. Bee visits them for honey he covers his wings with the pollen and carries it to the other flowers. The corolla attracts the bee by its bright color and sweet perfume."

"If there were no stamen and pistil, what do you think would happen, George?" "Why, there would be no baby seeds." And if there were no seeds, there would be no nice flowers next summer. Now, which do you think is the most important part of the flower? Yes, the pistil, because that is where the little seeds live. Now, do you not think we have had a very nice week talking about flowers? Yes, and I think you ought to love the good God very much, who has made all these beautiful flowers for you."

BEATRICE M. LAWRENCE.

Halifax.

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

TWENTY-FIRST PAPER.

Many teachers in studying this form of music find special difficulty with the time, and seem to think that it is the notation that is so difficult. Time and the notation of time are too different things, and the difficulty of time requires to be mastered whatever notation is used. The Tonic Sol-fa methods, if strictly followed, will be found most helpful in overcoming all the difficulties in music. In this system at all stages the thing is taught, and after that is mastered the notation is given. If this be not observed, do not blame the system for the difficulties that may arise. We think there is no special difficulty in the Tonic Sol-fa notation of time, for young children, who know nothing of the staff notation, readily understand it, and can write it. Do not look at this notation of time through, and interpret it by the staff, as this is the cause of much of the difficulty felt.

In this system of music the pulse or beat is the unit for time. Keep this clearly before the mind in teaching or learning both time and its notation. Do not attempt to teach at once the two separate things—time and its notation—with the additional difficulties of tune added. This is entirely contrary to the principles of the system.

The first thing, then, is to let the pupils hear sounds repeated at regular intervals, say tapping with

the end of the pointer. Let the teacher delay one of these taps, or hasten one, and try if the pupils will notice this. Let the pupils hear these sounds at quicker and slower rates of movement, but be careful to have the rate of movement uniform from beginning to end in each series. Next let the teacher sing notes of uniform length to one syllable, say *doh*, and to the same tone, but without beating. Try again; but now lengthen or shorten one tone, and see if the pupils detect the mistake. Next let the pupils try and sing say eight notes in the same way, only let the teacher tap or beat to help the children, but be careful to impress upon their minds and ears how long these notes are to be by beating a few pulses before they begin. When this has been well done change the rate of movement. Each time let the teacher give a pattern, and also beat a few pulses before they begin, and beat while they are singing.

Now let the pupils hear the difference of accent by giving the first note with strong accent, second weak and so on to the end. The pupils will feel that the music now divides itself into little periods of two notes each. These are called measures; and as there are two pulses to each measure, this is named "two pulse measure." Let the pupils try to sing in the same way, but with the strong and weak places distinctly marked, and each note the full length. Let the same be done to a different syllable—to *soh*, *me*, and *d¹*. When this has been done, it is time to begin to teach the notation. Draw the attention of the pupils to the fact that these notes in each series have been all of the same length. Therefore on the board the same space should be allowed to each. Carefully mark off spaces along the line by dots, say four inches apart. As you are careful in marking off these correctly, let the pupils understand that they are to be as careful to sing the notes in these spaces the same length of time. Now write in each of these spaces *d*. Before the 1st, 3rd, 5th, 7th, at the dot, draw a firm perpendicular line, and before the 2nd, 4th, 6th, 8th, at the dot, put two large distinct dots, like a very bold colon. If you are not particular in indicating the accent mark correctly and distinctly, do not expect the pupils to mark them correctly and distinctly in their singing. Now ask the pupils to sing eight *dohs*, giving accent, without looking to the board. The teacher will beat time as before. If correctly done, the pupils will look at the board and sing again the same way. Repeat this several times. Then write *s* instead of *d*, then *m*, then *d¹*. Next change the note at each measure, using the tune form they are familiar with, *d m s m d m s m d*. Then change the note every pulse. When this can be done well give the class a few time exercises in this two

pulse measure, with all the notes each one pulse.

Let the teacher now sing four measures to the same tone and syllable, but make the first and last a two pulse note. Get the pupils, after they have explained the change, to do the same. When this is done correctly, teach the notation. Change the exercise by introducing different notes. Next take an exercise where all are two-pulse notes. When two pulse measure with the strong accent first has been thus mastered, the class is ready for two pulse measure with the weak accent first. Let the pupils hear the music first, then describe the change. After singing the exercise correctly, then get the pupils to think out the notation. After the notation is known, sing an exercise, looking at the notation.

Proceed in the same way with all the difficulties of time and the notation for each.

JAMES ANDERSON.

For the REVIEW.]

A Fence.

Apropos of the hint in the April REVIEW, concerning a fence around the play-ground, let me tell you how we put 150 feet of rustic fencing around our girls' play-ground.

A carpenter cut the posts and stringers and put them in position. We had permission to cut the lumber off a lot that was being cleared. The boys made a Saturday excursion to cut six hundred poles, with the bark left on, which were to serve as pickets. Tamarack poles are the best, although cedar poles are the prettiest. Spruce and hemlock may also be used. The next Saturday we met to nail the pickets on. Each pole was sawed off on the larger end and this end placed on the ground, and the picket then nailed to both stringers. We began work at 6 a. m., and at 10 o'clock all the pickets were nailed on and the upper ends sawed off even by the chalk line.

The fence is cheap, durable and pretty, and harmonizes well with the old school-house, while a painted fence would make it look shabby. All it cost was the carpenter's work for three days and the price of sixteen pounds of nails and a hinge.

KAYE.

Clouds vary greatly in height, the mean height in winter being from 4,000 to 4,600 feet, and in summer from 10,000 to 14,000 feet; but they often have greater altitudes, particularly the cirrus clouds, which are the lightest and highest of all the clouds. They have been observed at a height of 23,000 feet, and in fleecy patches have been seen five miles above the surface.

For the REVIEW.]

Rest During Holidays.

The "Talks with Teachers" in the REVIEW are always read by me with great interest and I trust with some profit. And as I am a teacher of over a dozen years' experience, I would like to say just a word to my fellow-laborers about resting during holidays.

In the change of work by which you will lay up a store of material for future class-room work, whether of science, adventure, or of natural history specimens, you will get rested. Both mind and body will acquire new vigor. But let me urge you to make sure that before you resume work you allow yourself some days which you can devote to *absolute idleness*. Lounge around with or without a book. Let the feeling creep over you that you need make no exertion whatever,—that it is not necessary even to move or think. Let the hum of the bee and the song of the bird soothe you as you stretch lazily and very unconventionally under some tree where the

"Bowery loneliness,
The brooks of Eden mazily murmuring
And bloom profuse and cedar arches
Charm as a wonder out in ocean."

Make yourself a part of the dreamy and restful quiet of nature; allow yourself a season of perfect freedom from everything which savors of work, and enjoy to the full the blissful assurance that there is nothing, really *nothing*, that needs to be done. And whether it be one day or five before you have a surfeit and find a desire for activity returning, do nothing till that feeling comes. Then labor will have for you a freshness and a charm which it has only for those who have allowed the tired nerves thoroughly to relax and who have rested in the primitive and natural sense of the word.

KATE W.

For the REVIEW.]

Psychology for Teachers.

PROF. SETH, DALHOUSIE UNIVERSITY, HALIFAX, N. S.

LECTURE V.A. PRESENTATION.

Presentation is divided into two great divisions, viz.: (a) Sensation or Attuition, and (b) Perception or Intuition.

(a) Sensation is the primary mental phenomenon, the first awakening of the mind to exterior influences.

How does the mind awaken? By stimulation or excitation. The stimulus or object acting upon our organism as a whole, or on one of our organs, sets up

a current in the corresponding different nerve. This current is conducted along the nerve to the lower nerve centre or spinal cord, and thence to the higher nerve centre or the brain; a change takes place in the molecular constitution of the brain, then comes the sensation, which is a mental response to the exterior object. There is, however, a break between the physiological and mental change. The mental sensation is so unlike the physical condition, that we can discover the break at once. Sensation has several main aspects:

1st. A certain content or quality.

2nd. A certain tone as pleasant or painful.

The 1st is the presentative side or content of a sensation, the only object with which it presents me, and its element is consequently objective.

2nd. The affective side or tone of a sensation is objective. I am affected in a certain way.

3rd. Quantity or intensity.

4th. Duration.

Knowledge begins in sensation. The external world must first enter the mind of the subject through the senses, which have therefore been called the "gateways of knowledge."

Sensation is the elementary point of contact between the subject and the object.

A man who has always lacked one sense can have no idea of objects through that sense. A man blind from his birth, when asked what he thought scarlet was like, after thinking for some time, replied: "Like the sound of a trumpet." The analogy was certainly startling, but the object presented by one sense can never be explained by another. Sensation is always complex. We can never reach sensational units; there is always some relation. The more simple the knowledge the more sensational, the more complex the more intellectual. Had we intellect without sensation we should have only a mere empty form of knowledge; were we possessed of sensation without intellect, we should have only formless matter. Or, more correctly, since knowledge is matter and form in one, sensation may be described as matter in its lowest form. For even in sensation the appreciative process has already begun. Knowledge is a single or continuous process; it commences in sensation and passes on to perception, conception, judgment, etc. Sensation is the passive or receptive side of knowledge. I let an object produce an effect on me, but I react on it. It is difficult to say when we have reached the psychical element, for what seems simple is really complex. For instance, *hardness* which I find in an object, contains really:

1. Pressure of the object, which is passive.

2. Muscular effort, which is active.

3. Hardness.

I could not feel 3 without 1 and 2.

The law of the increase of sensation is of importance in mental science. This law, known as Weber and Fechner's, is as follows:

While the stimulus increases in geometrical ratio (1, 2, 4, etc.), the sensation increases in arithmetical ratio (1, 2, 3, 4, etc.), or sensation increases proportionally to the logarithm of its exciting cause; *e. g.*, if I hold one lb. in my hand and add one lb. to it, I feel considerable increase of weight; but if I hold 10 lbs. and add one lb., I feel very little.

The law holds of the *quality* as well as of the *quantity* of sensations. The same stimulus will produce a sensation now of cold, now of heat, according to its place in a series of sensations. For example: I have three jars of water near me—one the same heat as my hand, one hotter and one colder. I put my right hand in the jar of hot water and my left in the jar of cold; then I put both in the jar of tepid water. My right hand will feel cooler and my left warmer, because of the sensations which preceded. This may be called the Law of Relativity, and is stated as follows: The character a sensation, both quantitative and qualitative, is determined by its place in the sensational series. We distinguish sensations as those of general sense and those of special sense. In the first we must distinguish sensations that are strictly general from those which are connected with some one organ.

General sensations are connected with the nervous system as a whole; for instance, weariness or lassitude, and freshness and sensations of temperature. These are strictly general. Then there are sensations connected with some organ, as (1) pulmonary sensations, (2) alimentary sensations, and (3) muscular sensations. The third were formerly identified with the sense of touch, but they are in reality sensations connected with the movements of the muscles. When I raise my hand I feel it, not by the sense of sight, but by the *muscular sense*.

The sensations of special sense are (1) Touch, (2) Taste, (3) Smell, (4) Hearing, (5) Sight. Each of which has a specially contrived organ. Touch is the transition-sense from the general to the special sensations. Spencer and others say that all the other senses can be evolved from the touch, which is the *fundamental sense*. In all the senses there must be *contact*: in sight the ether-waves touch the visual organ, in hearing the sound-waves, in smell the odoriferous particles touch the mucous membrane of the nostril, and in taste the palate must be touched by the food. Sensations have a presentative or cognitive side, and an affective or subjective side; the

former is the objective meaning of the sensation, the latter its pleasant or painful feeling.

(b) Perception or Intuition (merely as distinguished from Attuition).

Sensations are elements or data. In sensation the work of appreciation has already begun, but in perception it first becomes obvious. Perception is the work of synthesis. It is the active manipulation of data into objects. The object perceived in the unity of many sensations. For instance, in this sheet of paper, the size, color, etc., are sensations. In perceiving the object I unify these sensations. I *seem* to see this paper, but it is *not* actually *sight* that tells me all about it. The infant mind is probably a blur of sensations. I attribute *color* to the *thing colored*. The infant has sensations but not perception, only vague, fleeting, ever-changeable sensations. The infant mind must feel its way laboriously through the mass, break it up gradually and analyze it. The question is often asked: How does knowledge begin? Does it proceed from simple to complex, or vice versa? Neither. Vague, indefinite sensations form the primitive cognition, which is a confused and sensational mass, though with the beginnings of order in it. Perception develops out of this mass a world of objects by the process of selective attention. When an interesting nucleus is selected, uninteresting sensations are grouped around it and rendered interesting by association.

There are three stages of perception:

1. Recognition (a) discrimination.
(b) assimilation or identification.
2. Fixation (a) in space.
(b) in time.
3. Reification (*res-facio*), making of objects, or Intuition of things or Objectification; 1 is analytic, 2 and 3 synthetic.

Of these, in education we deal first with recognition in its two-fold character. This is begun in the Kindergarten.

We educate the perception of space by Geography and Geometry, the former dealing with concrete space and the latter with abstract. Geometry, indeed, deals with the ideal, but bears on the real by applied Geometry.

We educate the perception of time by History. The historian possesses the most perfect idea of time.

Finally we develop Reification by means of the physical sciences, teaching how to arrange and synthesize the objects presented to us.

We should be extremely careful in whom we confide. Our confidences of to-day may be public topics to-morrow.

Fairy Glen.*

Hid in the virgin wilderness,
The fretted Conway's Fairy Glen
This summer day reveals its charms
For painter's brush or poet's pen.

The air is flecked with night and day,
The ground is tiger-dusk and gold,
The rocks and trees, empearled in haze,
A soft and far enchantment hold.

The place is peopled with shy winds
Whose fitful plumes waft dewy balm
From all the wildwood, and let fall
An incommunicable calm.

Through cleft rocks green with spray-wet moss,
Deep in the sweet wood's golden glooms,
The amber waters pulsing go,
With foam like creamy lily blooms.

Shuttles of shadow and of light
In-gleam and gloom the watery woof
As rolls the endless stream away
Beneath the wind-swayed leafy roof.

So life's swift shuttles dart and play
As ceaseless spreads its flashing loom:
Our day is woven of sun and cloud.
A figured web of gold and gloom.

God's arbor, this enchanted Glen!
The air is sentient with His name;
Put off thy shoes from off thy feet,
The trees are bursting into flame!

—T. H. Rand in *McMaster University Monthly*.

* Near Bettwys-y-Coed, North Wales.

Character Building.

The conscientious teacher is constantly confronted with the thought that the state requires as the result of her labors not scholars, literary men and women, mathematicians, linguists, etc., but *good citizens*; that the entire school system has been built up with this end in view—the production of thinking, intelligent men and women who shall carry on our system of government, our free and philanthropic institutions, and leave to their children a better legacy of civilization than we do to them.

Let our schedule work be never so faithfully performed, though we may thus produce well trained minds, we have not necessarily given to the community good citizens. The schedule is necessary, of course, but it is the mere husk of what the child should and *does* get from his school training.

There are silent influences at work unseen, building up the character of these future citizens, that every true teacher should direct and make use of in every possible manner. Her desire for good should animate the soul of every boy and girl under her charge! Every day by some softly spoken word of

praise or look of appreciation for effort to subdue self, the teacher can impress a sense and standard of right upon her pupils.

Children should not only *know* the difference between right and wrong but should *feel* it. This question of ethics, the science of human duty, is certainly a serious one, and let us hope that the time is not far off when those of us who are struggling so blindly along in all but vain efforts to raise the standard of morals will be able to receive assistance from the experience of others who feel that they have obtained fair results from their methods. In some schools a certain time each day is set aside for talks on "Morals and Manners," but this does not seem to me a "natural method."

A good wide-awake story that does not make its moral too conspicuous, but allows its influence to steal into the mind unsuspected is an excellent way of causing children to think on these subjects—but such stories, we all know, are difficult to find. Most story books devoted to ethics are not palatable to pupils. In one school where English literature is taught, the private character of the author is discussed in connection with his works, and the teacher finds many an opportunity to point a moral and show causes for success or failure. The first step is to teach children to think on subjects which suggest questions of right or wrong; second, to give *honest expression* to their thoughts; and third, to make them *feel* right and wrong. Don't be afraid of a little sophistry in your pupils, if they are honest in their opinions; but lead them to see flaws in their own reasoning, for this is just the training they need. It is the fault of the age to generalize too quickly and from too little data. Let us impress this one fact on this generation and we have added our quota to progress.

Let a child feel himself in a moral atmosphere and he will absorb ideas and opinions of right and wrong and never dream that they were not always his own. As an experiment which I have been trying has proved a help to me in this matter of character training, I will briefly state it, hoping others may find it useful. It may be used in connection with the language and composition work. A few suggestive questions are placed on the board and the class requested to think them over, generally until the next day, when they are required to express their thoughts on paper and pass to me. (Occasionally I give them no time to prepare.) Some of the thoughts are then culled from these compositions and at a subsequent lesson read to the class and discussed. One set of questions, for example, were as follows:

1. Which is it better to lose, a good name or a good character? Why?

2. What do you understand by a good character?
3. How is a good character built up?
4. How are good characters sometimes lost?

In response to the first one a nervous little fellow of twelve or thirteen replied: "It is better to lose a good name than a good character: if you lose your good character you are sure to lose your good name." One of the girls said: "A good name is rather to be chosen than great riches, and loving favors rather than silver or gold, but the character is superior to all." And another: "The world gives you a good name, but you give yourself a good character. The character is of more importance because it is what you are, not what you seemed to be."

In answer to the second I cull the following: "A person who has a good character is always doing all the good he can." "A good character is one you can always trust and depend upon, and when you are in trouble you can look to him for help." "A person has a good character who is innocent of any crime, and is a gentleman in appearance and at heart." This last afforded a chance for discussion. In answer to the third came: "We can build up character by daring to do right when all the people around you laugh and make fun of you." "By being a Christian, because if you are, you will have all the things needed for a good character." "By doing right, and helping others to do right." "By being good natured to every one—parents, playmates, and all." "By doing as you would be done by." "A good character is never formed at once but built up like a house from foundation to chimney. You must be upright, honest, cheerful, obedient, and remember the Golden Rule." "By having an ideal and trying to live up to it." In answer to the fourth: "Many good characters are lost by relying on other people." "By keeping bad company." "By getting discouraged." "By breaking your good resolutions."

Another set of questions was based on the old proverb, "It is more blessed to give than to receive." Some of the thoughts culled are: "People do not generally this saying true, because many give expecting something better in return." "Because it is easier to receive than it is to give, many try to think it better to do so." "Most people want their money's worth in return for what they give." "Judging from the many benevolent institutions in the city, I should think most people preferred to give." "If you are poor and cannot afford to give presents you can help an old lady across the street, and carry her heavy basket for her even if she is not the same colour as yourself; or after school at night you can chop her kindlings, or shovel her path clear of snow, and sprinkle ashes so she will not slip and hurt herself."

"If you keeping receiving favors and never giving them you may not get anything after a while, and they will not keep up their friendly relations with you." "People who are always receiving and never giving become unhappy, selfish, and very disagreeable in more ways than one."—M. R. O.—*School Journal*.

The Colors of Water.

"Is it not true, gran-lpa, that water has no color?"

"Yes, dear child, it is blue, but so little that you cannot see it."

"Can you see that it is blue?"

"No; but still it is blue. Look at this."

I took a little ultramarine on the end of the brush and mixed it with the water. "Does it look blue now?"

"No; I see nothing."

"Nor I. But you saw how I put a little blue color in it with the brush."

"Yes, but there was not enough of it. Put more in."

I silently took the glass and set it on a piece of white waper in the bright sunshine. "Now, look from above down into it."

"It is blue!" said the little one, clapping her hands, "but only a very little."

"Look at it from the other side, where the sun is shining into it. Is it not a little bit red, like the bell-flowers which you picked up yesterday?"

"That is wonderful," said the little one. "It is blue from above, a little bit red in the sun, and when we look at it from this side of the room we see nothing!"

"Think about it a little. The glass is as broad as my finger is long. But it is at least three times as high as my finger. When you look at it from the side, you see only a finger's length of water; but when you look down into it, you see through three fingers' length of water—three times as much. You see it blue from the side, and three times as blue from above, don't you?"

"Is that really true?" said the little one, as she measured with her finger. She nodded that she was satisfied.

"Now, imagine that the water is as deep as the height of the church-steeple, and deeper—that it reaches from here up into Salvan and down to Vernayaz. Then we would see the water from above it all blue."

"Is the lake, then, really so deep?"

"Yes, and deeper."

I will not continue the conversation any longer. It went on with various simple experiments, beginning with differently colored stones, which I let drop into the water, and then placed on the white, then with setting the glass with its weakly bluish contents on differently colored papers, and ended with my trying to make the children perceive how the colors changed when they were seen through the whole depth of the glass. I will not say that the little ones were brought to a full comprehension of the matter; but they stuck fast to the assertion that water is blue, of an infinitely weak blue, and that the blue color can not be seen till one looks into a certain depth of it.—*Carl Vogt, in the Popular Science Monthly for June.*

Girls.

Farmton in *The Advance* makes some very discerning observations on this interesting subject in a most affectionate way. He says:

"I confess to a fondness for girls. I am the husband of one and the father of another.

My fondness for them is the ground of a little remark I am going to make about them.

I am fond not only of girls *per se et in se* but also of pretty girls, attractive girls. I notice the growth of girls, of girls pretty and homely, of all sorts. I notice that pretty girls and young grow into homely old girls; some grow into yet prettier girls. I notice that some homely girls and young grow into really attractive, winsome young women.

I like to trace the course of this growth, progressive and regressive. The pretty girls who become homely are the girls whose brains are sleepy, whose associations are coarsish, whose reading is trivial, who are more fond of having a good time than of doing a good piece of work. The homely girls who become pretty are those whose brains are active, whose reading is strong, who give whatever attention is right to study, whose associations are pure and enobling, who are eager to do well their work.

It seems almost natural for a good woman to be attractive. If she has lived from the age of ten to the age of thirty the best of life open to her, she cannot well be other than pleasant and winsome.

Ten Facts About Flags.

1. To "strike the flag" is to lower the national colors in token of submission.
2. Flags are used as the symbol of rank and command, the officers using them being called flag-officers. Such flags are square, to distinguish them from other banners.
3. A "flag of truce" is a white flag displayed to an enemy to indicate a desire for a parley or consultation.
4. The white flag is a sign of peace. After a battle parties from both sides often go out to the field to rescue the wounded or bury the dead, under the protection of the white flag.
5. The red flag is a sign of defiance, and is often used by revolutionists. In our service it is a mark of danger, and shows a vessel to be receiving or discharging her power.
6. The black flag is a sign of piracy.
7. The yellow flag shows a vessel to be in quarantine or is a sign of contagious disease.

8. A flag at half-mast means mourning. Fishing and other vessels return with a flag at half-mast to announce the loss or death of some of them.

9. Dipping the flag is lowering it slightly and then hoisting it again to salute a vessel or fort.

10. If the president of the United States goes afloat, the American flag is carried in the bow of his barge or hoisted at the main of the vessel on board of which he is.—*Selected.*

A Little Laughter.

A burst of laughter greeted me as I neared the entrance to Miss Bright's room. Doubtful as to whether I should enter, I stopped a moment; but knowing there could not be anything very wrong in that class, and feeling sure that their teacher would not consider my visit an untimely intrusion, I knocked and stepped in. The children looked the very picture of happiness and merriment, while Miss B——was trying in vain to control her risibles.

With an effort she managed to regain her wonted gravity, and touched her silver-toned bell; when quiet again reigned and all looked very orderly and attentive. "You didn't know we were such a jolly class, Miss Lee?" she said. "We do not often make so much noise, but we were enjoying a good laugh over the funny experience of 'Mother Hubbard and her dog.' Freddy brought his Christmas book, and I was reading the story aloud when we became so uproarious." What is so refreshing as the unrestrained and unaffected laughter of children? "Cold water to the tired soul and food for the hungry mind," it is said to be by one of the sages. I begged that the story might be continued, and so the remaining verses were read, while the children sat with parted lip and sparkling eyes that dance from their teacher to each other with most infectious merriment.

I thought as I left that room, what a pleasure it is to be in a good-natured atmosphere. Good humor was the standard rule in the class. Orders were given with the necessary firmness, and yet with a pleasant tone and manner that always insured cheerful and happy obedience.

No doubt some of my readers can recall teachers they had in their younger days, who possessed the "knack" of creating cheerful atmospheres, and who carried sunshine with them wherever they went. They undoubtedly recall others of a "nagging" disposition, who succeeded in producing instead a feeling very far removed from good humor.

The habit of good-nature is one that needs to be cultivated in all departments of teaching, but especially among the little ones. Children are such brilli-

ant reflectors. If we happen to be dull and dispirited how quickly we see the same dark spirit taking possession of our scholars; but if instead we are bright and cheerful, we see the glad light of a happy heart reflected from every little face in the room.

It is from Joseph Addison's cheery pen that we have the words, "There is nothing that we ought more to encourage in ourselves and others than that disposition of mind which in our language goes under the title of good-nature." . . . It is more agreeable in conversation than wit, and gives a certain air to the countenance that is more amiable than beauty.

Hints for the School-room.

The following thoughts from the German intellectual colossus, Jean Paul Richter, may be of interest:

Each generation of children begins the history of the world anew.

Your watch stops while you wind it up, and yet you everlastingly wind up children and never let them go.

Forbid in a gentle voice, so that a whole gamut of force may be open to you, and only once.

Begin the culture of thy heart, not with the rearing of noble motives, but with the extirpation of bad ones.

More attention should be paid to bodily health than to mental surfetation; *the tree of knowledge should be grafted with the tree of life*. Whoever sacrifices health to wisdom generally sacrifices wisdom too.

The German philosopher was never in one of our well-governed modern school-rooms or he would not have written *all* of the following paragraph:

The child readily distinguishes a decided from an angry tone of voice. The father's commands are better obeyed than the mother's, for three reasons: the first, his decided, though far removed from angry, voice; the second is that the man, for the most part, like the warrior, says only one and consequently the same imperial No; whereas women can scarcely say to a child, be quiet! without colon and semicolon and most unnecessary notes of interrogation and exclamation. Was there ever in history an instance of a woman training a dog? Or could a general in commanding her marching army to halt ever express herself otherwise than thus: "Now all you people, when I have done speaking, I command you all to stand still in your places; halt, I tell you!" The third is that the man more rarely withdraws his refusal.

"What is the most difficult task in the world?"
To think,

Mistakes in School Management.

It is a serious mistake to neglect the details of school government. 2. It is a serious mistake to omit thorough yard supervision during recess. 3. It is a great blunder to stand too near a class. 4. It is a mistake productive of deceit and misrepresentation to have pupils report at the close of each day as to their conduct during the day, whispering, etc. (Ask your pupils their honest opinion as to their reports and practices.) 5. It is a mistake to censure each trifling error too severely. 6. It is a mistake to grumble too much. 7. It is a mistake to allow pupils to help each other. 8. It is a mistake for a teacher to be tardy and then punish her pupils for being tardy. 9. It is a mistake to sit very much while teaching. 10. It is wrong to give a command when a suggestion will do instead. 11. It is a mistake to make spiteful remarks before the school about notes received from parents. 12. It is a mistake for teachers to act in such a manner that pupils will be impudent to her during recitation. 13. It is a mistake to show temper in dealing with parents.—*Colorado School Journal*.

Kind Act of a King's Daughter.

On an elevated train the other day a glimpse was had of a kind act, the doer of which little suspected that she was noticed. Among the passengers was a sweet-faced young woman, dressed in fresh but not deep mourning, such as one might wear for a young child. At one of the stations another woman got on carrying a baby. Both were cleanly but poorly dressed, the baby particularly needing warmer garments than its gingham dress for the sharp air of the day. It wore no hat, a little shawl pinned over its head serving for hat and cloak as well.

The pair were seated directly opposite the lady in black, whose gaze was soon riveted upon them. She watched the baby as if she could not take her eyes from it, and when a shifting of passengers left a vacant seat on one side of the mother, she crossed and took it.

"What a bright baby," she said, leaning toward it, "how old is she?" with a soft smile at the pleased mother.

The woman told her.

"Ah," said the first speaker, "my baby was a month older, but she was no larger." Then she bent down and smiled in the baby's eyes, letting its little hand clasp one of her gloved fingers. "There is a little coat and warm cap," she said, speaking low and rapidly, "will you give me your address and let me send it to you?"

The woman scarcely caught her meaning.

"Quick, please; I leave at the next station," urged the other, still playing with the baby.

Hesitatingly then, and flushing a little, an address was given. A low "Thank you" was the reply, and then the train slowed up.

The involuntary listener and assistant at the little scene saw the black-robed figure pause a moment on the platform outside and take up a tablet attached to her belt, evidently to write down the address. As she did so, a glimpse was had, too, of a silver cross and a tiny knot of purple ribbon, which showed in whose name the dead baby's garments were offered. If this is the spirit of all the King's Daughters, what a beautiful sisterhood it is!—*N. Y. Times.*

OF EDUCATIONAL INTEREST.

The system of free text-books for the public schools is spreading. Wherever it has been introduced it has been found to produce entirely satisfactory results. Nor has the burden on the taxpayers been so heavy as was anticipated. In Boston, indeed, it is said that "the cost to the city of the text-books supplied to the pupils involves a much less annual expense than was incurred for these items twelve or fifteen years ago, when there was a much smaller number of pupils, and free books were furnished to indigent pupils only."

Supt. Greenwood, of Kansas City, receives \$3,600 a year. Prof. Buchanan, of the High School, \$2,400, and Assistant Superintendent McNeal, \$2,000. There are thirty-seven principals of buildings, with salaries ranging from \$65 to \$180 per month.

President Shippard, of the Philadelphia School Board, makes a strong plea for male teachers for boys in the higher grammar grades. He says it is due to a lack of such instruction as is suited to boys of twelve years old and upwards, which accounts for the action of the great number of boys of that age who leave school.

The Provincial Teachers' Association, of Ontario, have held their annual meeting at Toronto in April instead of August, as has been the previous custom. By this change of time the teachers have an uninterrupted summer vacation, and the association has the benefit of the university professors at their meeting.

The report of the Ontario Minister of Education shows that there are 5,768 school houses in the province. The number of separate schools has increased from 175 to 259 in the past fourteen years. Of the entire teaching staff throughout the province 67 per cent. are women. The highest average of salaries to male teachers in any county is \$447 and the lowest \$290. Women teachers receive on an average \$334 each in Essex, and \$204 in Haliburton, these being the highest and lowest county averages. Attendance, last year 496,000.

The San Francisco *Examiner* will send the twenty best scholars of California, as determined by written examinations, to the World's Fair, paying fare both ways, sleeper berths, meals, etc., and boarding them a week in Chicago. All California boys and girls are in training for this grand affair.

N. B. PROVINCIAL TEACHERS' INSTITUTE.

The thirteenth meeting of the N. B. Teachers' Institute was held in St. John on the 28th to the 30th June, in the Centennial School Hall.

FIRST SESSION

The first session opened on Tuesday at 2 p. m. with scriptural reading and prayer by Dr. Inch, Chief Superintendent of Education. The secretary, H. C. Creed, A. M., read his report, showing a balance on hand of \$45.93. The report of the executive recommended that teachers not members of a county Institute be eligible to membership in the Provincial Institute by enrolling themselves at once as members of their County Institute and paying the fee. The report recommended that Mr. G. U. Hay be asked to represent the Institute on the committee to consider the revision of the text-book on Canadian history, this committee to meet in Montreal during the session of the Dominion Association.

Mr. J. M. Palmer, of Fredericton, was elected secretary.

The first paper read was by Principal Mullin, on the subject, "Rights and Duties of Citizenship, and How they may be Taught in the Schools." Mr. Mullin first explained his view of the duties of the citizens, and then outlined the course of preparation for these duties. In general, the pupil who is taught to observe accurately and draw just conclusions receives an excellent training in this direction. But there must be special instruction—in forms of government, in preparation for public speaking, in teaching pupils their responsibility, in exercising the rights of the franchise, and the moral duty of weighing motives and forming correct judgments.

Prof. Kierstead, of Acadia University, made a stirring address, reviewing the progress of education in the province and speaking of the important duties of training boys and girls for the active duties of life. Addresses were made by Messrs. O'Reilly, St. John; Foster, Fredericton; Cox, Newcastle; Wilbur, Moncton; and by the Chief Superintendent.

PUBLIC EDUCATIONAL MEETING.

A public educational meeting was held in the Mechanics' Institute on Tuesday evening, which was attended by members of the Institute and many ladies and gentlemen of St. John. The Chief Superintendent presided, and delivered the opening address, in which he dealt with the aims of teachers' conventions. Music was furnished by a number of ladies and gentlemen of St. John, including Mrs. W. S. Carter, Miss McGinnis, Mr. Lindsay and Mr. Smith. Addresses were delivered by Lieut.-Governor

Tilley, His Worship Mayor Peters, H. J. Thorne, Esq., Chairman of the Board of School Trustees; Dr. Harrison, Chancellor of the N. B. University; Rev. J. deSoyres, J. V. Ellis, Esq., Rev. Dr. Macrae, and A. A. Stockton, Esq., M. P. P.

SECOND SESSION—WEDNESDAY MORNING.

At the opening of the Institute Mr. Hay spoke of the approaching session of the Summer School of Science in August, its history and its advantages. He was followed by Mr. G. A. Inch, who spoke of the admirable combination of study and recreation to be enjoyed at the summer school.

Mr. Philip Cox moved, seconded by Inspector Carter, that in view of the election of a member of this Institute to the Senate of the N. B. University, the limitation requiring said member to be a graduate of the university be not approved of by the Institute. The resolution was allowed to lay on the table after discussion by the mover, seconder, and Messrs. Vroom, Parlee, Hay, Barry, Palmer, Creed, and Dr. Inch. The weight of opinion of the speakers inclined to the view that the limitation should be removed.

The following members of the Executive Committee were elected:

Mr. G. U. Hay,.....	St. John.
" Philip Cox.....	Newcastle.
" S. O. Wilbur.....	Moncton.
Miss M. Narraway,.....	St. John.
Mr. H. C. Creed,.....	Fredericton.
Miss M. K. Tibbits,.....	Gagetown.
Mr. W. H. Parlee,.....	St. John.
" B. C. Fisher,.....	Fredericton.
" G. A. Inch,.....	Fredericton.
" Thomas Stothart,.....	St. John.

The subject of the morning discussion was then taken up: "Examinations—(a) for Entrance to Normal School; (b) for Grammar School License; (c) for Entrance to and Leaving High Schools; (d) for Provincial License to Teach." Miss M. K. Tibbits, Principal of the Queens County Grammar School, in a pleasing and forcible address, presented the first topic. It was full of excellent points. Miss Tibbits claimed that subjects like History, Geography and others should be passed upon finally at the entrance examination to Normal School in order that pupil teachers have more time for professional subjects. Mr. Parlee claimed that candidates for Grammar School license should be allowed to take their examination in parts, and suggested three factors—Language, Mathematics, Science—an examination in each, to be held at the interval of a year. Mr. J. M. Palmer, speaking on the third topic, thought that Latin should not be a factor in the examination for

entrance to High Schools, but that the time spent in Latin in Grades 7 and 8 be given to other branches; the leaving examination questions should be prepared by the Board of Education, and a certificate from the Board awarded to successful candidates. Mr. J. Vroom dealt with the question of examination for teachers' license, recommending that holders of 3rd class license have the standing of assistant teachers, and a certain term of apprenticeship required before proceeding to 2nd class. He would have the examination for license divided, and would omit the subject of book-keeping from the requirements. Addresses were made by Mr. Barry, Inspector Carter, Principal Mullin, Messrs. Montgomery, H. C. Henderson, J. G. A. Belyea, and Dr. Inch.

THIRD SESSION.

In the afternoon the Chief Superintendent explained the changes in recent text-books, and urged that these be introduced without any more delay than necessary.

Mr. B. C. Foster read an excellent paper on "The text-book as a factor in education." Mr. Foster held that the intelligent use of the text-book was of the utmost importance in the education of the intellect and will, while the misuse of it is disastrous, morally, and intellectually. He thought that an advisory committee should be appointed from the institute to act, if required, with the Board of Education in the selection of text-books.

The paper was discussed by Messrs. Wilbur and Montgomery.

Mr. Brodie, Principal of the Charlotte County Grammar School, read a paper, "The Question of of Grading Pupils." It dealt with the different modes of grading that had come under his notice. He outlined the course pursued at St. Andrews. This was found to work well. He thought pupils who satisfactorily completed grade 8 work should be admitted to Normal School without entrance examination. The paper was of great interest, and the different modes of grading that are practised in different places were freely discussed, the following taking part: Mrs. Dieuaide, Mrs. Cox, and Messrs. Cox, G. A. Inch, S. C. Wilbur, Inspector Carter, Messrs. Montgomery, McLean, Barry, J. March.

FOURTH SESSION—THURSDAY.

At the morning session a paper was read by Edward Manning, M. A., upon "Supplementary Reading adapted to the needs and acquirements of pupils from Grade I to Grade VIII." Mr. Manning spoke of the amount of objectionable reading matter afloat in these days. How can the matter of good supplementary reading be provided for cheaply and use-

fully? The teacher herself must be a good reader, especially for the benefit of the small children. The speaker mentioned many suitable books for supplementary reading in all grades and which should find a place in school libraries, which should be more liberally provided. The teachers and pupils can aid these in many ways; if in no other, by judicious clippings on the part of the teachers.

Mr. McLean, Principal of the St. John Grammar School, addressed the Institute on the subject, "Does the present course of study meet the requirements as regards the practical education of the majority of the children." The majority of our pupils never spend more than five years in our schools, and are not fully reaping the benefits intended for them. We should exact attendance or shorten the course, so that the fullest benefits may be obtained during the time of actual attendance. Five years' work in country schools is equivalent to eight years in the city. We should cover the same ground in the same time in the city. A full discussion was asked for by the speaker.

The discussion on both papers was participated in by Mrs. Dieuaide, Inspector Bridges, Miss Beatrice Duke, William Loggie, Miss Hanson, Inspector Smith, S. C. Wilbur, Miss Fullerton, Geo. J. Oulton, James Vroom, P. Cox, W. P. Jonah.

FIFTH SESSION.

Dr. Inch informed the Institute that a catalogue of books suitable for school libraries would be prepared at an early date.

The Institute passed a resolution testifying its appreciation of the services for education of the late Mr. F. H. Hayes and its sympathy for his widow. Several members of the Institute, including the Chief Superintendent and Inspector Bridges, paid a warm tribute to the worth and faithfulness of the deceased.

A cordial vote of thanks was tendered the ex-Secretary, H. C. Creed, A. M., for his faithful and able services for the past fifteen years—dating from the inception of the Institute. Mr. Creed, during the course of a feeling reply, stated that only one member present—Miss Grace Murphy, St. John—had attended, with himself, every meeting of the Institute.

Votes of thanks were tendered the Press, School Trustees of St. John, the ladies and gentlemen who had furnished music and addresses at the public educational meeting, and to the teachers of St. John for the conversazione entertaining the visitors.

The election of a representative to the Senate of the N. B. University took place. Inspector Carter, Philip Cox, Wm. M. McLean and S. C. Wilbur were

nominated. The two latter declined. The vote stood as follows: Inspector Carter, 164; Mr. Cox, 156. Inspector Carter thanked the Institute for the honor conferred on him, and said he would try to fill worthily and to the best interests of the Institute the office to which he had been appointed.

The President announced the appointment of the following advisory committee on text-books: B. C. Foster, P. Cox, W. M. McLean, G. U. Hay, P. G. McFarlane, J. G. A. Belyea, Mrs. Dieuaide, Miss Fawcett, S. C. Wilbur, R. P. Steeves.

Messrs. Brodie, Parlee and G. A. Inch were appointed a committee to consider the subject of grading in connection with the suggestions made by Mr. Brodie in his paper.

Mr. G. U. Hay read a paper on "How Best to Carry out a Course of Natural Science from the Primary to the High School." He referred to the aim of any study—first, to acquire facts, and second, to form habits of observation, correct modes of thinking, and to show the relation of one fact to another. Natural science subjects were well fitted to secure this second and most important aim. He urged that the natural objects and features of scenery in the pupils' immediate neighborhood, with the phenomena of every day occurrence, be made the subjects of study. The ever open book of nature was therefore the best text-book. It was not necessary that teachers be learned in natural science in order to teach it successfully. An interest in it, a spirit of inquiry, a sympathy for nature, a working with the pupils and leading them to overcome their difficulties, were of the greatest importance.

Mr. J. Brittain, of the Normal School, followed, urging teachers to lead their pupils to observe and think, and gave several instances, showing the importance of botany, especially in cultivating the powers of observation. He illustrated the use of the wing attached to the seed of the Silver Maple, describing in a very interesting manner the habitat and mode of growth of that beautiful tree. He presented seeds to the teachers present, urging them to plant these.

The Institute adjourned.

NOTES.

The attendance was very large, numbering about 270 members.

The papers read at the Institute will be published, probably in a supplement to the REVIEW.

A cordial vote of thanks was tendered to Dr. Inch for the impartial manner in which he had conducted the proceedings, to which he made a suitable response.

Mr. W. C. Simpson acted as assistant Secretary to the Institute.

A very pleasant and enjoyable conversazione was held on Thursday evening, after the close of the Institute, and the committee of St. John teachers who managed the affair performed their duty in an admirable manner.

The 24 Hour Time System.

The proposal to adopt the 24 hour system by all the railroads in America is receiving renewed attention.

The following resolution passed on June 2nd, by the Royal Society of Canada is therefore worthy of every consideration:

"Whereas the American Society of Civil Engineers has recommended the adoption of the railways of America of the 24 hour notation, known as the "Italian notation," on 12th of October next, or the four hundredth anniversary of the first sighting of the New World by Columbus;

"And whereas the Canadian Institute in its annual report to the Royal Society calls attention to this fact with approval, as an important step in the time reform urged both by the Institute and the Royal Society;

"Therefore, the Royal Society, acting in accordance with its previously expressed views, hereby recommend the proposal to the government and people of Canada, and especially to the two great railway companies, the Grand Trunk Railway, and the Canadian Pacific Railway companies, as a grateful and appropriate compliment to the fatherland of the discoverer of America."

By all means, we say, introduce the change, even into the cottage. In these days of schools and schoolmasters, the new order will not cause much inconvenience, even in the year of its introduction.

SCHOOL AND COLLEGE.

Mr. J. B. Sutherland has been appointed principal of the Milltown schools.

Miss Lily Hanson will also resume her school in Milltown at the beginning of the present term.

Miss Kate Bartlett of the Victoria High School is visiting the Canadian North-West.

Misses Moore and McLean, and Mr. Joseph Lochray have resigned from the St. Stephen's staff.

A very handsome school flag has been procured for Deep Cove school, Grand Manan.

The following lower province men are graduating this year at Harvard University; R. P. Alexander, B. A., Mt. Allison; J. E. Barss, B. A., Acadia; J. W. Brehant, B. A., E. B. Smith, D. D. Hugh, B. A., Dalhousie; A. J. B. Mellish, B. A. Mt. Allison; T. T. Davis, M. A., Mt. Allison; S. A. Skinner, B. A., University of New Brunswick.

BOOK REVIEWS.

GEOGRAPHY OF THE BRITISH COLONIES, by Dr. George M. Dawson, Assistant Director Geological Survey of Canada, and Alex. Sutherland, M. A., Carleton College, Melbourne, with illustrations. Cloth, pp. 330, price three shillings. Publishers MacMillan & Co., London and New York. This is a neatly printed and convenient volume illustrated mostly from photographs supplied by Dr. Dawson and Mr. Sutherland. It contains no maps, but could be used with advantage as a

reader, as it gives quite a comprehensive survey of the British possessions, their general geological formation, river systems, productions, chief places, etc. The part of the work contributed by Dr. Dawson embraces British North America, the West Indies and the southern part of the South Atlantic Ocean.

EASY EXERCISES ON THE FIRST GREEK SYNTAX of the Rev. W. Gunion Rutherford, M. A., LL. D., by the Rev. G. H. Hall, M. A. Price 2s 6d. Cloth. London: MacMillan & Co. and New York, 1892. This is designed to give pupils a full and thorough acquaintance with the elementary principles of Greek grammar. The plan, by which rules and examples are blended together, serves admirably this purpose.

DRESSMAKING, a Technical Manual for Teachers, by Mrs. Henry Grenfel; pp. 83, cloth, price 1s. 6d. Publishers, MacMillan & Co., London, and New York. This excellent little book will supply a want in Home Dress Cutting and Making. It deals with principles, and is entirely independent of any special system of cutting out. With such valuable instruction as this Manual affords in a plain and simple form, there can be no difficulty in developing the idea of "Dressmaking made popular," and we recommend it to all interested in the restoration of "Home-lore" as an essential part of women's education.

ROUND THE EMPIRE. For the use of Schools, by G. R. Parkin, A. M., with a preface by the Right Hon. the Earl of Rosebery, K. T. Cloth, pp. 263; Cassell & Co., publishers, London. Mr. Parkin, so well known to Canadian teachers, has done excellent service to schools throughout the British empire by the publication of this admirable work. Its object is to give to boys and girls in elementary schools a simple and connected account of those parts of our great empire outside the British Islands. The interesting style in which it is written—in Mr. Parkin's happiest vein, for he is dealing with a subject in which he is warmly interested—and the maps and illustrations, make the book a most valuable one for our teachers and schools.

ELEMENTARY CLASSICS. Selections from Livy, Books V and VI, with introduction notes and vocabulary; price 1s. 6d. MacMillan & Co., publishers, London and New York. These selections are gathered from the easier portions of the books named. They are intended for boys who can make out the easier portions of Caesar, but are not yet able to cope with the large and more involved sentences of Livy.

GOLDEN TREASURY SERIES; Deutsche Lyrik. Selected and arranged with notes and a literary introduction by C. A. Bucheim, Ph.D., F. C. P., Professor of German literature in Kings College, London, Examiner in the University of London. Cloth, pp. 412; price 2s. 6d. London, MacMillan & Co., and New York. This elegantly bound volume contains a series of selections from the German lyric poets. The usefulness of the present volume to students of German is attested by the fact that this is the seventh edition of the work.

Current Periodicals.

In the *Popular Science Monthly* for June Mrs. H. M. Plunkett contributes a stimulating educational article on "Kindergartens—Manual Training—Industrial Schools," showing that these agencies have not yet been appreciated to their full value... In *Goldthwaite's Geographical Magazine* (New York) for June may be found a series of interesting articles for teachers, such as "Afloat on Greenland Ice," "Standard Time," "Columbus and His Times," "Maps and Map-Drawing," "The Sun Spots," "Geographical Notes," "Hints for Teachers," etc. Subscription price, \$3 a year... In the *McMaster University Monthly* for June is an interesting and appreciative sketch of the life and labors of Dr. T. H. Rand... The *Atlantic Monthly* for June has an interesting table of contents, of which the most interesting article to the student of history is "Looking Toward Salamis," by William Cranston Lawton... *St. Nicholas* for June is as bright and fair as a "day in June,"... A father can give his youngson no better present than a year's reading of the *Scientific American*. Its contents will lead the young mind in the path of thought, and if he threads there a while, he'll forget frivolities and be of some account, and if he has an inventive or mechanical turn of mind, this paper will afford him more entertainment, as well as useful information, than he can obtain elsewhere. Price, \$3 a year, weekly.

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1892-93.

FACULTY OF LAW—(September 5th), Dean of the Faculty, N. W. Trenholme, M.A., D. C. L.

FACULTY OF MEDICINE—(October 3rd.) Dean of the Faculty, Robert Craik, M. D.

FACULTY OF ARTS, OR ACADEMICAL FACULTY.—Including the Donalds Special Course for Women. (Opening Sept. 15th.) Dean of the Faculty, Alex. Johnson, LL. D.

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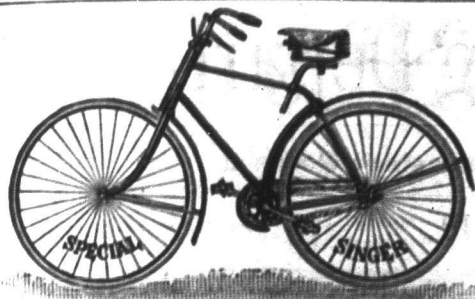
FACULTY OF COMPARATIVE MEDICINE AND VETERINARY SCIENCE—(October 1st), Dean of the Faculty, Duncan McEachran, D. V. S.

MCGILL NORMAL SCHOOL—(September 1st). Principal, S. P. Robins, LL. D.

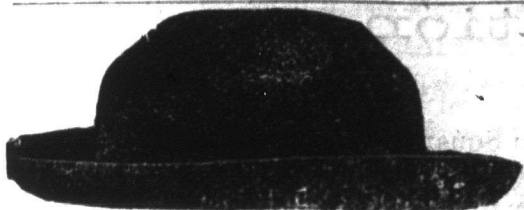
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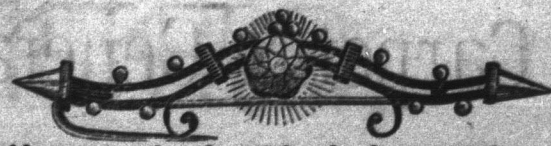
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The Sixth Session of the School will be held in the City of St. John, beginning on **MONDAY, the First Day of August next,** and closing on Saturday, the 13th of August.

The opening will take place in the hall of the Centennial School. The Mayor of the city will preside, and the President, G. U. Hay, Principal of Victoria High School, will deliver the opening address. Among the other speakers will be Lieut. Gov. Sir S. L. Tilley, Chief Superintendent Dr. Inch, of New Brunswick; Dr. MacKay, Superintendent of Education for Nova Scotia; Premier Fielding, H. J. Thorne, Esq., and Hon. Judge King.

The staff of instructors for the session is large and excellent, consisting of the following:

- ASTRONOMY—Principal Cameron, Yarmouth Academy.
 - BOTANY—G. U. Hay, Ph. B., President of the school, assisted by Miss N. Forbes, A. B., Yarmouth Academy.
 - CHEMISTRY—Prof. W. W. Andrews, Mount Allison, Sackville.
 - ELOCUTION—Miss M. A. Alexander, St. John School of Music.
 - ENGLISH LITERATURE—Principal A. Cameron, Yarmouth.
 - GEOLOGY—Prof. A. E. Coldwell, Acadia College, Wolfville, and G. F. Matthew, A. M., F. R. S. C., St. John.
 - HISTOLOGY and MICROSCOPY—Principal E. J. Lay, Amherst Academy.
 - MUSIC (Tonic Sol-fa)—Rev. Jas. Anderson, M. A.
 - PHYSICS—Principal E. MacKay, New Glasgow.
 - PSYCHOLOGY—A. F. Emery, M. D., St. John.
 - PSYCHOLOGY—J. B. Hall, Ph. D., Normal School, Truro.
 - ZOOLOGY—Prof. J. Brittain, Normal School, Fredericton. Assistant in Zoology, Principal, G. J. Oulton, Dorchester, N. B.
- Lectures and class-room work will occupy each day from 9 to 1, except Saturday, the 6th of August, which is set apart for an excursion by

steamer to some point on the St. John River, and Wednesday, the 10th of August, for an excursion to St. Martins or some other point of interest on the Bay of Fundy. Every afternoon will be devoted to out-door work, or rather out-door pleasure, such as visiting the Falls and the Narrows of the St. John River, Duck Cove, Lawlor's Lake, Parks & Sons' Cotton Factory, Clifton on the Kennebecasis, etc., etc. In fact the program of work and recreation is such that no one can fail to be benefited and refreshed. The unanimous verdict of those who attended last year's delightful session at Antigonish is that the two weeks spent there were the most pleasant and profitable of the year. Whether viewed as a holiday, as a reunion or as a place to acquire knowledge, each session of the school has been a grand success. DON'T FAIL TO BE PRESENT. You will find it the most delightful way imaginable of increasing your store of scientific knowledge, and you will have the privilege of free lectures from such men as Dr. MacKay, Dr. Inch, Principal Cameron and others.

Note carefully the following: The I. C. R. will give a return ticket free on presentation of standard certificate, to be procured when and where ticket is purchased.

The C. P. R. advise the purchase of their regular 30 day return tickets, as the certificate plan would give no cheaper rates, unless at least 60 pass over their road to attend the School.

The Windsor and Annapolis and also the Western Counties Railway will give a return ticket for one-third fare on presentation of Secretary's certificate.

The Yarmouth Steamship Company will give return ticket free. The Bay of Fundy Steamship Company will give return ticket free, provided there be as many as ten or more by that route.

Persons desiring board will communicate with the President, the Local Secretary, or friends in St. John.

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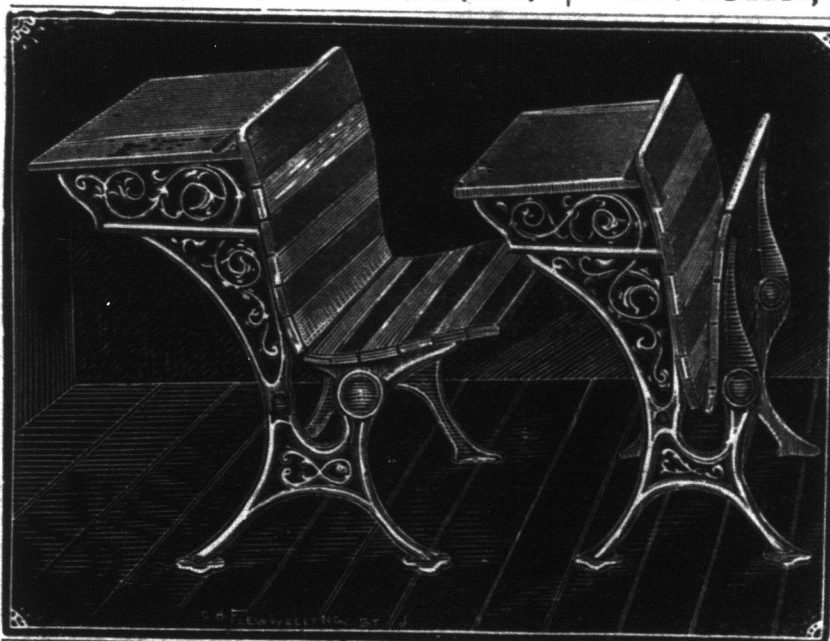
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