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EDUCATIONAL JOURNAL

OF WESTERN CANADA.

Edited by G. D. Wilson

CONTENTS FOR MAY, 1899.

A Few Sparrows	T. M. MAGUIRE..69
Notes from the Field	..71
Centralization of Schools	EDW. P. LANGRELL..73
Mechanical Accuracy in Arithmetic	I. I. CURRIE..74
Teaching Canadian History	D. M. DUNCAN..75
Physical Apparatus	A. E. GARRETT..78
Pure and Applied Arithmetic	J. B. HUGG..80
Some Half Truths	F. H. SCHOFIELD..83
School Ground Decoration	MELVIN BARTLETT..86
In the School Room	W. A. McINTYRE..89
Inspection Notes	A. S. ROSE..91
Editorial	..94
Reviews	..94
Departmental	..96

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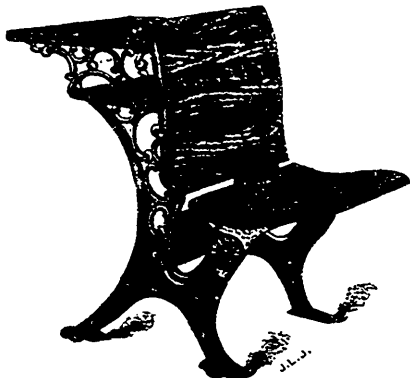
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EDUCATIONAL JOURNAL

of Western Canada.

VOL. 1.

BRANDON, MAY, 1899.

No. 3.

A Few Sparrows.

"I come, I come! Ye have called me long,
I come o'er the mountains with light and song;
Ye may trace my steps o'er the wakening earth,
By the winds which tell of the violets birth,
By the primrose stars in the shadowy grass,
By the green leaves opening as I pass."

The fiat has gone forth and, cold winds, snow-storms and frosty nights to the contrary notwithstanding, winter must go. The warm south wind of the last few days is swelling the buds and awakening the grass. Already the early anemone in her wool coat has ventured forth and the little buttercup who cannot boast of a warm wrap has not been afraid to show himself.

The insect world too is awakening from its long sleep. The spider is looking for suitable places to set his traps; the big happy-go-lucky fly is buzzing around the maple and birch trees for the oozing sap; an occasional butterfly zig-zags aimlessly across the view. In the pond the water buttes are darting hither and thither like messenger boys within ken of the office or dawdling together in a corner like the same boys when out of sight; the big snails turn lazily from side to side as they reach over their own doorsteps to feed on the green scum; the nightly serenade from the "Canadian Band" tells us that the frogs have awakened once more to the responsibilities of life. It may be interesting to note that the common toad plays no mean part in this nightly performance. One can hardly recognize our dull, clumsy garden friend of the summer in the sleek gentleman with the red cap, who swims and dives so actively in the road-side ponds.

Some mysterious influence has called the birds from their far southern homes, and, with no doubt as to the genuineness of the call, they are coming again to teach us lessons of faith and hope. Among the returning legions there is none more interesting and none, perhaps, less understood than the sparrows. A gray-bird is only a gray-bird of course, but like common-place people he has his peculiarities of character and disposition. A little patient observation will show him to be a bird of some parts and will show also that he fills the station of life to which he has been called in a manner worthy the imitation of many whose summing up of him and his work is expressed in the phrase "only a gray bird."

The sparrows are our most common representatives of the finch tribe, a family of seed-eaters, with heavy, strong beaks, to enable

them to crush the hard shells found on many wild seeds. This from a utilitarian standpoint. From our esthetic standpoint we have no more interesting or beautiful birds.

In early spring come the flocks of juncoes and tree-sparrows, responding so promptly to the call that they get here amid the snow storms, frost and rain of the passing winter. The junco with his slate colored coat, almost black cap and white breast, is a pleasant, cheery little fellow, always in a good temper, and minding his own business, but ready to entertain you with his modest trill of song if you have but time to wait a moment. His companion, the tree-sparrow is a good mate for him in disposition, but he is clothed in a dark striped gray coat, a brownish red cap and a vest of ashy gray with one black spot in the centre. He is easily recognized by the spot on his vest if one can get a front view, but the beginner in bird gazing will soon learn that a front view is one thing a bird is particularly careful he shall not get. For obvious reasons a bird prefers to turn his back and look at you over his shoulder. The tree-sparrow's song is more pretentious than the junco's and is a very pleasant sound in early spring before the grand chorus commences. These birds are only stopping over a day or two on their way north. They set up housekeeping and raise their families beyond the contaminating influences of our modern civilization. Possibly they reason, that, if the Indian and the house-sparrow as we find them are the results of close contact with the white man, then they prefer to keep their distance. They will be civil and sing for us and make things pleasant as they loiter a day or two on their way but from any greater intimacy they beg to be excused.

Coming somewhat later, but staying with us all summer, is the Song Sparrow. In disposition and general characteristics much like the others, but possessing more originality than either. He is well named the Song Sparrow. His repertoire consists of six or seven distinct songs. These he sings at all times, from early morning until early morning again, for naturalists tell us that he appears to dream in song. He has been heard to pipe up a gentle, half-sleepy melody in the middle of the night. He is frequently heard just at dark. I sat this evening on the doorstep and listened to one on the opposite side of the street, just as night was closing in. The Song Sparrow has a brownish-red cap, and a dark-striped coat, more or less like the tree sparrow's, but his vest is spotted and streaked with brownish, the spots running together into one large spot in the centre.

We have all seen the little gray bird that runs on the road ahead of us, flying up and alighting farther on as we get too close, displaying two white tail feathers as he flies up. This is the Vesper Sparrow. Perhaps, though, we have not all heard his pretty, delicate soliloquy of song, as he sits on a small stone or piece of earth near the road, about dusk, and warbles his evening hymn.

So much for three or four of the humbler members of this large family. They are not striking birds, but because of their associations and characteristics they deserve our friendship and should have our care and protection.

Do you want to know what nature can do with gray and white, and a touch of yellow and black, combined with grace of form? If you do, look for the White-throated Sparrow. Do you want to know what she can do with the gray and white and the touch of black without the yellow? Then find the White-crowned Sparrow. Or watch for the Black-crowned Sparrow, and see what gray and black and a touch of white will do when combined with elegance of form.

The first of these you are more likely to hear than to see, for his "Pea-a-peabody, peabody, peabody," comes apparently from anywhere but the singer remains invisible. He is one of our most noted vocalists, so persevere, a sight of his graceful form and quiet but rich and elegant dress will repay you. His cousin, the White crown, matches and perhaps surpasses him in beauty of form and elegance of dress, but in voice he is inferior to the White-throat. The Black-crown resembles his cousins to some extent, but is inferior to them in song. He is, I understand, a western type, and is here near the eastern limit of his range.

While you are looking for these you may chance to hear a vigorous rustling among the dry leaves in some scrub. Keep quiet, and you may get a glimpse of that embodiment of western hustle, the Fox Sparrow. This is the largest of our sparrows. He is as large as a thrush, and looks like one with his reddish back, tail and head, and his breast of pure white, spotted with reddish brown. He is a handsome bird; not with the delicate, refined beauty of the White-throat, or White-crown, but with beauty of a more masculine type. He stands before you a well dressed, carefully brushed gentleman. If he had teeth and finger nails they would be spotlessly clean. The Fox Sparrow is a hustler, but he is a dignified hustler. He knows how to make things move without losing his presence of mind.

These are a few of our sparrows. There are many more, and they will repay careful study.

T. M. MAGUIRE.

Notes from the Field.

The teachers of South Western Manitoba will meet in convention at Boissevain on Thursday and Friday the 25th and 26th of May. The day sessions will be held in the Intermediate School, beginning at 10 a. m. on Thursday the 24th. An excellent program has been prepared and will be presented by teachers of experience. The complete program cannot yet be announced. The following have been secured: Mr. S. H. Ferrest, Principal of the Souris Intermediate School, will give a lesson on drawing. The subject of Music in the Public Schools will be taken up by Miss Suttie of Deloraine. Mr. R. R. Earle, Principal of the Killarney Intermediate School, will give a lesson on Natural Science. A paper will be read by Miss Gibson of Pilot Mound on "Sympathy," showing the relation that should exist between pupil and teacher. Mr. E. E. Best of Manitou, Inspector of the South-Western Division, will take the subject of Reading. Mr. W. A. McIntyre, Principal of the Normal School, Winnipeg, is expected to be

present. A public meeting will be held in Wright's Hall on Thursday evening. Mr. Atkinson, of Portage la Prairie, will deliver an address on "Birds in General." Mr. Atkinson is a specialist and enthusiast on "Birds," and no doubt his address will be interesting and profitable. He will have his specimens with him. An excellent musical program will also be presented at the evening session. Rev. G. C. Hill will occupy the chair. The public is cordially invited to attend the evening or any session of the Convention. It is hoped the teachers of the South-Western Division will show their appreciation of the efforts of the executive by their presence and that they will come prepared to take part in the discussion of the different subjects. The days spent by teachers in attendance will count the same as days actually taught. Those attending by rail should secure a certificate from the agent at starting point which will entitle them to return for one-third fare provided there are twenty five who thus attend.

D. J. WRIGHT,
President.

W. T. MCGROVE,
Secretary.

* * *

The Westbourne Teacher's Association meets in convention in Gladstone on the 19th of this month. The executive have got a good programme ready. Among the topics discussed will be a paper, "How to commence Drawing in a Rural School" by Mr. Harry Laidlaw, of the North Lakeside S. D., and a paper on "Our Native Trees, and How to Know Them," by Mr. C. K. Newcome, of Westbourne.

* * *

Mr. Gardner Taylor has resigned his position in the Lakelet S. D. and contemplates leaving the profession.

* * *

Miss Frost has resigned her position on the Portage la Prairie teaching staff on account of ill health and has gone to her home in Owen Sound, Ontario.

* * *

Several interesting papers will be presented at the North Central Teachers' Association Convention at Neepawa on the 25th and 26th inst. Inspectors Rose and Maguire will be present. Mr. Rose will talk about "Grammar." Mr. Maguire will conduct a "Question Box." Dr. McLean will tell of the "Boy Next Door." Mr. M. E. Boughton, of Arden, will deal with "Schools from a Municipal Point of View." G. W. Arnott is down for a paper on "Drawing," and Miss Wake for one on "Music." Other useful papers on the program are "Concrete Ideals," by Miss Crawford; "School Libraries," by Mr. Thompson; and "Literature in Lower Grades," by Miss Perry.

* * *

The editors of the Victorian W. A. McIntyre have now in course of preparation a hand-book to accompany the same. It will be ready after vacation.

Centralization of Schools.

A few remarks on Dr. Thornton's able article in the March issue of *The Journal* may not be considered out of place.

I include from the article that Dr. Thornton would advocate the construction and maintenance of one or more central schools in each municipality, instead of the schools of the present rural school district. This is not bad theory, but impracticable. One reason for the proposed change is the benefit to teachers—it would increase the number of schools in which about \$1000 could be paid to the principal of each. This is no reason at all, because the schools are maintained solely for the good of the pupils and through "pro bono publico." Another reason advanced is that the higher subjects could be better taught in central schools. It would be so if the proportion of pupils of the rural schools fitted for the higher subjects, were so large that special legislation, etc., should be made for their benefit. However, my experience is that about 95% of the children of rural schools, are not left long enough at school to go beyond the elementary subjects, in which I would include reading, writing, arithmetic, spelling, composition, history, grammar, and the rudiments of botany, algebra and geometry.

I question several of Dr. Thornton's statements which he assumes as axioms:—(1) "The school might as well be closed in winter"—as a matter of fact the average attendance of very many rural schools is highest during the winter months. (2) "The school is open for eight months of the year"—in the municipality of Woodlands, during 1898, there were 4 union and 11 non-union school districts in operation, and of these 14 were kept open 200 days in the year and the trustees of the 15th say they will do likewise during the current year. (3) "The pupil gets a better and wider education in four years than the boy in the rural school does in six"—I hope Dr. Thornton's remarks refer only to his own school and to his own district. While the teachers of rural schools work under many disadvantages as irregular attendance, frequent changes of teachers, etc., etc., in very many schools the rural pupils are not only as proficient as pupils of similar age and attendance in the cities, but far more proficient in the subjects necessary for practical life. I remember a teacher of a graded school exhibiting her pupil's samples of botany at a teachers' convention, the botany was not bad, but the hand-writing was mere "scribbling." (4) If "airy rooms and pleasant surroundings constitute a stimulating environment"—are these to be found only in cities? (5) "The results obtained in the cities are due to the aggregation of numbers"—I question the hypothesis even in this form. But I may safely add, many of the evil results obtained are due "to the aggregation of numbers," and if I were to send my boys to the city to get some of the good results, I would be afraid to run the risk of their acquiring some of the evil results as well.

Am I so "dense" then that I cannot see the advantages of graded schools? No! but I think the remedy suggested is impracticable, and not likely to be accomplished by theorizing. I think the number of small schools in the country is a natural consequence of sparse settlement in this new province. Indirectly the government is responsible

by causing or allowing so many reservations ; land held for speculation and want of drainage and roads, are other causes.

What then is the natural remedy ? Have patience, let our waste lands be reclaimed and the country advertised and the wilderness shall "blossom as the rose." Then the attendance of the country schools will warrant partial grading; many new villages will arise, our villages will become towns and our towns cities. How are the higher subjects taught in Ontario and in some of the New England States ? Am I rightly informed when I state that the advanced pupils of rural districts naturally gravitate to the High School or Collegiate Institute nearest or most convenient to them ?

It is not my desire to criticize nor to depreciate Dr. Thornton's very able and instructive essay; but I think it is well to look at other sides of the subject.

EDW. P. LANGRELL.

Woodlands, Man.

Mechanical Accuracy in Arithmetic.

I shall not attempt to argue that it is easier to remember the addition and multiplication tables (?) than to pursue the analysis of number up to one hundred. What I do claim is that the new method of learning the elementary facts of number does not result in speedy and accurate calculations, rather the reverse.

It appears that the analysis of number has been pushed to an extreme, even to stultification. If the pupil must, every time he forgets a combination, make a new analysis, he is simply marking time in so doing. Why not, if analysis is desirable, have the learner make notes of his numerical operations, and in the end systematize them for himself? But this will result in something akin to what was formerly known as the addition and multiplication table. Why not, if the pupil constructs the table for himself? Even the old fashioned table was not a table of stone. There must be a system, for have we not an educational system which requires systematic work although the analysis of number may not generally be carried on with much reference to it?

One of the difficulties of our class system is that one pupil who is familiar with the combinations of number may be held back while others are acquainting themselves with the operations, and thus in a country like ours, where pupils leave school early, many do not have time to acquire the knowledge of number that has practical value in life.

Another cause of want of mechanical accuracy is the early introduction of problems that are intended to teach the child to reason (?) when he is too young to grasp the principles of the elementary logic concerned. Little children memorize quickly, and often so thoroughly that they really seem to understand what in reality they have no conception of, and the teacher often finds that a slight change in the wording of a problem, apparently understood, leaves the pupil utterly at sea as to its solution.

No doubt many of us have, in our younger days, told little children to study, when the poor child might well have said, "How can I, unless some one teaches me? The command or request "Now think," seems equally out of place when addressed to little children. They in most cases, do not find the mechanical operations either as deadening or as difficult as is so often stated. Children like work they can do, then why not give them plenty of practice in what will have for them a high practical value ?

I have not made the claim that there should be no analysis or that no elementary problems should be given, but what I do claim is that we are inclined in these latter days "to deal in watchwords overmuch" and that the result in arithmetic at least, is not up to expectations.

If principals of schools and others in charge of advanced classes, did not lose time in dragging their pupils along to a certain degree of mechanical efficiency in numbers, half the amount of time spent on arithmetic might very profitably be devoted to other subjects of higher educative value. It is not numbering objects, whether stones, beans or sticks, that makes primary pupils familiar with number. Kindergarten methods are only useful when there goes with them the enthusiasm of the ideal kindergartener ; and while it is easy enough to interest children in analyzing numbers when the analysis is applied objectively, it is much more difficult to preserve their interest in the thorough drill that must accompany the analysis if satisfactory results are to be obtained.

I. I. CURRIE.

Indian Head, N. W. T.

Teaching Canadian History.

That the teacher teaches mainly as he has been taught, is, Normal training to the contrary, sadly true. When there is thrust—the expression remains justifiable until such time as the subject attracts the attention of specialists—the task of teaching history, he instinctively turns to his own experience as a student, if perchance he may derive inspiration from the methods according to which his education in the subject was directed. And, unless it prove that he has been favored beyond the common lot of men, what an inspiration! In his retrospective mood he finds that the history lessons of his youth were assigned with special attention to uniformity of length. What matter if occasionally some unfortunate topic were chopped in two, and the dismembered sections dealt with in separate lessons with scant regard to their quondam relationship? In class, to test the reading of the work assigned, questions and answers were recited; then, if time permitted, a note was written upon some topic important or unimportant as fortune, in the guise of a ^{class} district teacher, willed. And so the farce went on until impending examination cast its gloom over all, when a synopsis was dictated, for the alleged purpose of organizing the pupil's

knowledge, with the actual result of stifling anything approaching originality in thought or expression.

With such an experience behind him the unfortunate undertakes to teach, let us say, Canadian history. His fancies play proudly about the theories loaded upon him at the impressionable age of his Normal course, theories which time and possibly other limitations never permitted to be transformed into practice. Yet, such is the enthusiasm of youth, he would essay to make real his pet theories were he not confronted with two insuperable obstacles, namely, text book and examiner. The text book he finds to be the digest or "indigest" of another's theories, and that, too, duly authorized by the powers that be. Not only are the facts of history presented in detail, but likewise the conclusions drawn and the generalizations made. The work has already been done, and the history lesson becomes a recitation in which the words of the text play a part that would do honor to the author of a classic. The examiner—a consciousness of rectitude will lead the more enlightened to exclude himself from the implication—while not necessarily "per se" an evil, is weakened by an adherence to the prescribed text, that is if he has read it at all, or recently. Yet text book and examiner are apparently inevitable drawbacks, and under constraint of a philosophical spirit the teacher submits to what he cannot alter, and may well occupy his mind with a consideration of certain crudities of method fostered by his own poor judgment.

Possibly the greatest difficulty confronting the teacher of Canadian history is the selection of what is important. The entire history of the people cannot be taught under such limitations of time and material as are inevitable in public schools. What then ought to be selected? What principle ought to underlie selection? Canadian history is full of periods, and these periods full of series of events, each of which in turn is made up of numerous details. Upon what period, series, event or detail is emphasis to be placed? For instance the American Revolutionary war is under consideration. The class has read how Canada was urged to join the Colonies in their revolt, but remained loyal to England; how Quebec was besieged by Arnold and Montgomery; how during and after the war the U. E. Loyalists settled in Nova Scotia, New Brunswick and the Canadas. What in this lesson calls for special attention? The loyalty of Canada, the defence of Quebec, or the coming of the U. E. Loyalists? Manifestly these are not to be treated as isolated events. History is marked by a continuity, and in that continuity lies the determining factor in selection. Institutional growth of some kind is going on, and it is in their relation to this that events must be viewed and their importance estimated. Of two events or of two series of events the one which contributes most to the development of institutions, whether social, political or commercial, calls for special attention in the class room. For this reason the Revolutionary war must be much more fully dealt with than the war of 1812; for this reason—in the series of events connected with the former, the coming of the U. E. Loyalists is of the greatest moment, contributing permanently as it does to the development of social and political institutions in Canada.

Connected with the question of selection and growing out of it, is

that of the period. There is no device working greater havoc in the teaching of history than that of periods mechanically formed for examination or other purposes. As a result of this practice, our pupils are brought to look upon the history of Canada as divided into so many periods; each in itself complete and owing nothing by way of cause or effect either to that preceding or to that following. They master the facts of period number one and set them aside to deal with those of number two. Ask them to trace the connection between the last event in period one with the first in period two and you have ushered them into an atmosphere Greek in its perplexity. How natural this is, while examiners continue to base their questions upon such a series of dates as, 1633-1665-1763-1764-1774-1791-1841-1867, as though each marked a premature millenium.

How then is the true period to be determined: manifestly by an organizing idea: certainly never by dates, the sole recommendation of which is to be found in their convenience. When the organizing idea first manifests itself the period begins, and only ends where that idea either disappears or is so modified as to justify the recognition of a new period. For example, if the development of the Canadian constitution is under consideration, 1764, 1774 and 1791 do not necessarily mark exclusive periods. The principle of irresponsible government really combines all of these arbitrary divisions, and is lost sight of only when an elective assembly has been firmly established. The new period created by the organizing idea of representative government will continue until it gives place to the next dominating thought, namely, that of the responsibility of the executive to the assembly. Have a class follow, step by step, the development of the constitution, and note the succeeding principles in its growth, and the periods will suggest themselves. The periods thus formed may then be marked by means of dates for convenience in reference, provided students are warned that most dates so employed are only approximately correct. Even teachers may lose sight of the fact that, not even by act of parliament, can momentous changes be brought within the compass of a year.

To conclude an article upon Canadian history teaching without making reference to the use or rather abuse of dates, would be to confess oneself indifferent to the best interests of the subject. Too often a date is a stumbling block to the student in the intelligent grasping of historical sequence. Ask a class for the date of the Union Act and with few exceptions its members will mechanically answer, 1841. The answer may supplement or take the place of real knowledge of the place occupied by that event in history. Thus the date is almost a disadvantage in teaching. How much better training would have been afforded if the class had located the Union Act as following naturally upon the rebellion caused by the evils which the Act tended to remove? Dates memorized and recited too often interfere with the recognition of cause and effect.

And yet, after all has been said, if the teacher himself grasp the real content of history he will be so occupied therewith as to feel it waste of time to serve either his memory by means of dates or his ingenuity by the formation of uniform periods.

Physical Apparatus.

The teachers of this Province are just now struggling with a prescribed course in Physical Science. Many of them feel they cannot accomplish the work without appliances they deem themselves unable to purchase. It therefore seems that a short treatment of the subject of apparatus may not be inopportune.

It seems a pity that the authors of text books have not had more consideration, in the choice of experiments, for the poverty of their constituents. In many cases slight modifications of the experiments would have reduced largely the cost of apparatus.

This error of the text book maker induces an error on the part of the teacher in making up his list of requirements. He is tempted to purchase air-pumps, electrical machines, etc, instead of such material as may be adapted to a dozen different uses. He is tempted also to overlook the vast fund of creative and inventive faculty both in himself and in his pupils. It is true that many instruments must be purchased but when the village hardware store will supply at twenty-five cents an article which apparatus dealers catalogue at seventy-five cents, it seems that money would be saved in taking an inventory of our home resources.

It is only in the larger schools that the more costly pieces of apparatus may be purchased; the smaller ones contenting themselves with such adaptations of simpler apparatus as are offered in this paper. For several years the writer has preferred to use some of these simple devices although in possession of the costly and complicated apparatus. Tubes of capillary bore may be made from short pieces of glass tubing by heating the side of the tube before the flame of the blow-pipe and when quite red and soft drawing out suddenly. The writer has in this way made capillary tubes of over a yard in length. Test capillary ascension by placing a piece of this tube in the ink well.

A modification of Experiments 6 and 36 of Gage's Introduction, 1891 edition, may be performed as follows:—In a pickle bottle or large flask place a few ounces of water and turn mouth downward into this a test tube nearly filled with water so that a bubble about an inch in length remains in the closed end of the tube. Tightly stopper the bottle with a perforated cork fitted with a glass suction tube. With the mouth suck air out of the bottle watching the bubble in the inclosed test tube. Will the result be the same if the test tube is completely immersed? What is the result if the test tube is outside the bottle but connected with it by a tube dipping beneath the water in the bottle passing through a second perforation in the cork and through a cork into the water in the inverted test tube! What properties of fluids and gasses do these demonstrate?

The experiments with Attwood's machine proving the laws of momentum and of falling bodies may be performed upon the front wheel of a bicycle. Remove the front tire and suspend the machine at a height of seven or eight feet with a long rod marked in inches, a stone swinging at the end of a string to mark the time, tiny bags of shot, silk thread and weights, surprisingly accurate results are obtainable. The

bags of shot should not weigh more than two ounces and the wheel should be at rest with these suspended at the ends of the string whether they are at the same height or one up and the other at the floor.

For an electric battery proceed as follows:—Procure from an electric supply company, or from a hardware dealer, battery poles of zinc and from the street corners near the electric light poles some burnt ends of carbons. These may be purchased also if not obtainable otherwise. Fasten a zinc and a carbon with waxed cord, one upon each side of a small bar of dry wood and attach wires to their upper ends, being careful that the metal of the wire comes in actual contact with them. The small sticks will lie upon the tops of the battery jars and hold the plates in place. Glass tubmlers may be used for jars and common annunciator wires for connections. When connections are carefully made better results can be obtained from a number of these simple cells than from a costly battery and at a cost less than the price of one cell of the more pretentious variety. The fluid used had better be sulphuric acid, diluted with twelve or more times its volume of water.

Leyden jars are easily made by coating a pickle bottle a little more than half way to the top, both inside and out, with tinfoil, obtainable at a florists, or at the hardware stores. Any metal rod passing through the cork and touching the interior tinfoil, will complete the jar.

An electrophorous can be used to do the work of an electrical machine and may be made as follows:—Melt several pounds of good resin in a tin jelly cake dish, filling the dish quite full and allow it to cool and harden in the dish. When quite hard it is ready for use. Make the lid of a round disc of brass, copper or even tin, two or more inches less in diameter than the resin cake. Fasten to the centre of the disc a dry varnished wooden handle or if possible a glass handle. Rub the upper surface of the resin cake vigorously with a cat's skin (the neighborhood will not miss one cat, and some lad will be delighted to supply the article). Bring the plate upon the cake, touch its upper surface with the finger, then lift the plate by its handle. It will be found to be electrically charged and will give a distinct spark. The operation can be repeated many times without recharging the cake by friction.

Leyden jars can be charged by repeated sparks from the plate quite as effectually though not so rapidly as from the electrical machine.

These illustrations will doubtless be sufficient to indicate what may be done, and it is hoped they may provoke suggestions from other writers.

The ingenuity of the pupils may be called upon for the production of most of the following useful appliances:—Wooden retort stands and funnel holders, wire tripods, test tube holders, pendulums, bridge for pneumatic trough, pairs of zinc and carbon plates for battery, rotators, levers, wheel and axle, pulleys, wedges, syringes, pumps, sonometer and interference pipe, or even the organ pipe.

The spiral spring for sound waves can be obtained from a broken window blind roller. Pith balls for electrical work may be made from pith of sunflower. But certain apparatus must be purchased. What

shall it be? The accompanying list, to which approximate cost is appended, is intended to contain the essentials :

- 2 Large U Tubes.
- 1 Barometer Tube.
- 1 Boyle's Law Tube.
- 1 Balance for S.G. and for general weighing.
- 1 Set of Gramme Weights, 50 gms. to 1 cgm.
- 1 Graduated Jar, 150 cc.
- 1 Ball and Ring.
- 1 Thermometer, 212° F.
- 1 Magnetic Needle on stand.
- 1 Bar Magnet, 6in.
- 1 Vulcanite Friction Rod.
- 1 Tune Fork.
- 1 Tall Jar, 18x2in.
- 1 Prism, 3in.
- 1 Iceland Spar.
- 2 Glass Funnels.
- 1 Mortar and Pestle.
- 1 Set of Lenses.
- 1 Spirit Lamp, 4oz
- 1 Blow Pipe.
- 2 Flasks, round bottom, quart.
- 2 Flasks, flat bottom, quart.
- 1 Pound Glass Tubing, 3-16in.
- 1 Piece Glass Tubing, 1in. dia. 2ft. long.
- Test Tubes in abundance in two sizes; large ones, 8x1 in., and small ones, 4x $\frac{1}{2}$ in.
- Filter Paper.
- Litmus Test Papers.
- Test Tube Cleaning Brush.
- Corks, assorted.
- Rubber Corks and Rubber Tubing.

If these articles are purchased wisely the cost need not exceed twenty-five dollars. The wise and inventive teacher will be surprised to know what he can do without.

E. A. GARRETT.

Winnipeg.

Pure and Applied Arithmetic.

"Mathematics," says Prof. Simon Newcomb, "is the science which reasons of the relations of magnitudes and numbers considered simply as quantities admitting of increase, decrease and comparison. It is divided into 3 branches—Arithmetic, Algebra or Analysis and Geometry; but in the extension given to the subject in modern times these three branches merge into each other so gradually that no exact line can be drawn. Arithmetic is the branch which is concerned with the pro-

erties and relations of numbers, especially whole numbers." "Number," on the authority of the same mathematician, "abstractly considered is the measure of the relation between quantities of the same kind; in this sense it is identical with the term ratio, or quotient. Technically considered it is a single thing or a collection of things of the same kind; it is in this sense that the term is generally employed in mathematics."

Taking for granted the truth of the foregoing it appears that the science of arithmetic deals with discrete quantity.

In any mathematical investigation some particular kind of quantity may be under consideration. For instance, it may be length or area, or weight, with which the mind is concerned and upon which it operates in any particular case. On the other hand the particular quantity under consideration may not be regarded; for instance in the operation $2 + 2 = 4$. No particular quantity may be considered. Thus it appears that the science of mathematics can be divided into two branches, pure mathematics and applied mathematics. In the former branch the particular kind of quantity under consideration is not thought of. In the latter particular quantities are considered. This division of the science of mathematics has been referred to by Harnack, *Cal.* p. 15 as follows: "As in purely arithmetical investigations (dealing with discrete quantity) we no longer consider what are the things given in number, so in the conception of variable quantity we have also to free ourselves entirely from what this quantity represents. The distance of a movable point, the temperature, the tension of vapor, in a word, everything measurable in nature can enter into calculation as variable quantity."

The importance of this division into pure and applied branches from the educator's point of view is very great. Arithmetic is the department of mathematics to which the pupil is first introduced. Which branch of arithmetic, pure or applied, should he first grapple with, is the question which at once arises.

The usual procedure has been to begin with applied arithmetic, in other words to cause the pupil to operate upon or deal with particular quantities, as blocks, weights, etc. He is asked to form such judgments as $2 \text{ feet} + 2 \text{ feet} = 4 \text{ feet}$, $2 \text{ blocks} + 2 \text{ blocks} = 4 \text{ blocks}$, before he forms the pure arithmetical judgment $2 + 2 = 4$.

This time honored method of procedure has been very strongly opposed by a recent hand book, "The Groundwork of Number." The advocates of the new method hold that in the scientific study of number the use of objects is not only unnecessary but also inconvenient, and even destructive of clear numerical ideas. That is they hold that from a consideration of particular quantities clear numerical ideas cannot be obtained. They would train a child "to think out numerical relations," without reference to the kind of quantity with which he is dealing. In their method the judgment $2 + 2 = 4$ must be thought out or arrived at in some way without reference to objects or sense, or representations of such objects. When the pupil understands the pure number relation they would let him make such applications of it as result in judgments like $2 \text{ feet} + 2 \text{ feet} = 4 \text{ feet}$.

It is not proposed to discuss here the possibility of the develop-

ment of the science of pure mathematics independently of applied mathematics. Even if it be possible to develop the former a priori, it does not follow that in commencing the study of arithmetic the attempt should be made. The child in commencing arithmetic should certainly proceed along the same course as the race itself has proceeded along. There can be no doubt that in the history of the race, applied arithmetic came first, or in other words that the idea of number arose in making the measurements rendered necessary by the conditions of primitive life. This is clearly set forth in the *Psychology of Number*, ch. iii, to which the reader is referred. Not only did applied arithmetic precede pure arithmetic, but applied mathematics has always preceded pure mathematics in time of development. Probably there is not an important theorem of pure mathematics which did not in the first instance arise in the investigations of applied mathematics.

Paradoxical as this statement may seem at first glance it is nevertheless true. We are so accustomed to think of the truths of pure mathematics being applied to particular things and calling the resulting investigation an example of applied mathematics that we forget the real distinction, namely, that in pure mathematics we do not consider what kind of quantity is being dealt with while in applied mathematics we do.

It follows then that the only natural way to introduce a child to the science of pure arithmetic, is through applied arithmetic. The proper procedure will be to confront him with the necessity for actually measuring some particular thing. If he really be induced to measure, the idea of number must necessarily arise in his mind. It is only after performing actual measurements that the child becomes able to think $2+2=4$. If this be true it will involve a complete reconsideration in certain quarters of the proposition that "in the scientific study of number the use of objects is not only unnecessary but also inconvenient and even destructive of clear numerical ideas." Indeed the authors of the proposition are forced to recognize the necessity for some preliminary dealing with objects before pure arithmetic is commenced though they deny that objects should be used in the school room. They seem to think that handling objects in order to perform measurements can only result in exercise of the faculty of perception.

It is interesting to observe that the view that pure arithmetic should precede applied is deduced from the proposition that number is based on the idea of time and not that of space. It is difficult to see how any such conclusion can be inferred from the proposition. Any and every act of perception or thought involves the idea of time. Accordingly, to emphasize that number is based on the idea of time is merely to emphasize a characteristic of all thought. The second part of the proposition, that number is not based on the idea of space is equally true but it does not involve any such consequence as has been drawn from it. As a matter of fact it is from the comparison of objects in space that the ideas of quantity are most easily gained, and as Arithmetic is the science of quantity there is much reason for the use of objects in commencing its study.

Regina, N. W. T.

J. B. HUGG.

Some Half-Truths.

Wonderful advance has been made in educational principles, aims and methods in recent years, but this advance has not been in a direct line. Our progress has been along a zig-zag path whose direction has changed from time to time as some new principle was recognized as of supreme importance in the philosophy of education, or as some new method claimed first place in the pedagogic art. Knowledge, power, culture, and character have in turn been the pole stars toward which our educational effort has been directed; classics, mathematics, natural science, literature and history have in turn held the first place as means for the attainment of the end; and the didactic, the Socratic, and the laboratory methods of leading pupils to the truth have in turn had the support of leaders in educational thought. Many of our leading teachers have been so entirely absorbed in advocating the principle or method which has occupied their educational firmament for the time being that they have lost sight of other equally important and correlated truths, and have left themselves open to the charge of proclaiming those half-truths, which one writer says are sometimes more mischievous than whole lies, and of misleading some of the rank and file of the teaching profession.

The leaders themselves may not be misled. They have the data for correcting the variations in the educational compass. Their wider outlook, their more varied experience, and their fuller knowledge of life and child nature enable them to see the true bearing of the doctrine which they reiterate and emphasize so persistently. But the young teacher, whose ideas of life are but half formed and who lacks the experience which would enable him to offset fine-spun ideals by the hard facts of practical life, assumes that these half-truths so often repeated by those whom he feels bound to accept as educational authorities are whole truths and quite sufficient for his guidance. So he launches forth with a varying compass and no reliable chart of the difficulties of the voyage. It is not surprising then that he sometimes loses his bearings, ceases to direct his course towards any port, allows himself to drift aimlessly with varying winds and shifting currents, and finds his professional voyage "is wrecked in shallows and in miseries." So no apology is offered for calling attention to the fact that in the science of education, as elsewhere, truth often lies between two extremes, and for warning our teachers against some half-truths which are often in practice the most pernicious fallacies.

1. THE NEW CHILD WORSHIP.

Within the last ten years our educational literature has been dominated by a kind of transcendental child worship, and not a few of our leading teachers in Canada and the United States have become adherents of the new cult. The object of their rapt adoration is not a real child with freckled face, mischievous eyes, ruffled hair, and torn clothes, who in the years to come must do a man's work in the rough-and-tumble struggle of life and fight his way to success or be pushed aside as a failure; it is rather a kind of cherubic abstraction made up mostly of sentimental possibilities. And there is a marked tendency

on the part of the worshippers to sit before their idol and gaze upon its possibilities, and sit and gaze, and little more. Their gospel may be formulated somewhat as follows: "The child is the supreme head of the educational system; he is above programmes of study, time-tables, methods, and devices; he is higher than text books, and drill and examinations; he is superior to the hopes of teachers, the ambitions of parents, financial considerations, and business success; his welfare is the ultimate good; and for him alone the school and the school master exist."

New all this is truth, but it is not all of the truth. It is one of those fallacious half-truths so capable of working mischief. The child's good is the supreme purpose of any educational system which rests on a true basis and of all rightly directed educational effort; but it is a purpose which can be realized only by using such means as God and nature have left open to us, and in accordance with their laws. It would be worse than foolish to decry the means for the sake of exalting the purpose. A rational programme of study only formulates nature's law of intellectual development—which is God's law—and cannot be disregarded with impunity. A time-table is merely a plan for the most economical division of time and energy for the child's good. The child is more than the method, but more good is likely to be done him if the teacher follows a method having a sound basis in psychology and physiology than by any haphazard teaching which has no basis anywhere and aims at nothing. The good of the child is higher than text books, but his best good cannot be realized without them. The most powerful influence on the living, thinking soul of the child is that exerted by the living, thinking souls with whom he comes in contact; next comes the influence of nature's changing aspects and varying messages; but in the third place we must put the influence of books. The child is more important than recitations, examinations and drill; but so long as human nature remains the same and the divine government of the world continues man can reach his highest development only through work and drill. The child's good is more than the hopes of teachers or the ambitions of parents; but it is a sad thing for him when he ceases to be the object of one or the other. His good is superior to business considerations; but in this work a day world it can never be independent of them, and ought not to be.

But it is just at this point that inexperienced teachers are apt to fall into error. They reason in this way: "The authorities have proclaimed that the child is above courses of study, time-tables, text books, drills, examinations and methods; therefore we will disregard courses of study, abolish time-tables, discard text books and abandon drill, and reviews and examinations; the child is superior to them all; Pestalozzi would have none of them, nor will we; thus will we follow the teaching of the authorities, and make life pleasant for our pupils and, incidentally for ourselves.

And the sequel? It may be read in some of our schools. School is called when convenient for the teacher and is dismissed when he feels like going home. Lessons are given when the teacher or the pupils are in the mood for them. If they choose to study, well and good; if not, that also is good. He reads to them or to himself, writes

letters, or prepares for the next medical examination; and the pupils grow apace in habits of inattention, idleness and disorder. The trustees, rightly feeling that such an advanced teacher is beyond the needs of their district, decide that they do not need his services for another term, and thinking that they have paid too much for such negative services, they hire a cheaper teacher for the new term. Thus the last state of that school is worse than the first.

O, teacher, your work is too great, too urgent, too delicate, to warrant any fanciful experiments. The conditions of life may be becoming more and more strenuous; but child nature is the same to-day as it was ages ago. The laws of mental activity and mental development do not change. You will not discover a new psychology, nor find a royal road to learning. The only known road thither is still a "via crucis." Pestalozzi died more than seventy years ago, and his mantle has not fallen on you. You may have thought so during the first year of your school work, but now you are probably convinced of your mistake. Pestalozzi himself could not have been a Pestalozzi in one of our public schools of to-day. The divine purposes of human existence—development and pleasure—are still to be realized only by human effort. The doom pronounced on the race in Eden is still its only means of salvation. "Life's endless toil and endeavor" is still the condition of human progress. The words of Georges Sand, "La vie est un combat, pas un hymne," are true even of school life. If you are wise you will remember that, from the first, work is the inexorable law and condition of development and progress. Make the conditions such that the child's effort will be as natural and spontaneous and pleasurable as possible, but do not try to eliminate the condition.

The builder should often refer to the finished plan of the structure he is erecting; but only that he may the more firmly and wisely lay each stone and brick and timber in its place. The traveller who would scale the mountain must ever and again raise his eyes to the summit he would reach; but it is equally important that he watch the winding path, the shelving ledges, and the yawning chasms in his way thither. The mariner should keep his prow pointing as steadily as possible toward his guiding star; but he is worse than foolish if he does not watch the winds and tides and currents to make them help him forward when possible and avoid their hindrance when desirable. And it is well for the teacher to look forward at times to the highest good of the child as the supreme purpose of school work; but only that he may the more wisely use programmes of study, and time tables, and text books, and drill, and routine, and hopes of parents, and business necessities toward the realization of that purpose.

Winnipeg

F. H. SCHOFIELD.

It is only the superior men in a science, or in an art, those who have sounded all its depths, and have carried it to its farthest limits, who are capable of composing such elementary treatises as are desirable.—ARBOGAST.

The Problem of School Ground Decoration.

The philosophy of beautifying the schoolhouse and grounds will be evident to anyone who has given even a momentary consideration to the subject. To stimulate the energies of the child by arousing an interest in and a love for the school and its surroundings is the primary object; but its effect upon his after life when a home of his own will reflect this early example, the effect upon the community through the imitative efforts of the children, and the effect upon the teacher himself—too often an exile from home and friends—through the new interest it gives him in his surroundings, make the effort still more laudable.

Nearly every teacher has attempted to observe the day set apart for the purpose of tree planting—though some make Arbor day a mere excuse for not working—but few are satisfied with the results of their labors. They do not find the premises much improved by the row of scraggy maples along the front fence, and find little comfort in the thought that they have done their duty. Some have spent their hard earned dollars (blood money) for trees and plants, and had the results attained been in any degree satisfactory had counted the cost for nothing, only to sadly confess their efforts fruitless.

What is the solution of the problem? It is to stop measuring the spaces for your trees with a tapeline, to forget the idea that trees are the only plants worth propagating, and remember that the front fence is not the only part of the school-ground worth beautifying. One would think the object in thus planting the foreground only were to screen the desolate and dreary premises from the public view, an idea that does little credit to the methods of the teacher. To put the proper method before you in one sentence, make the trees your background instead of your foreground, group them instead of planting them in rows, use shrubs as well as trees. This is called landscape gardening—it is the natural method as opposed to the artificial or nursery method of planting.

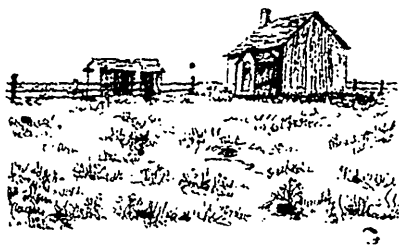


FIG. 1—AS IT IS.

There are two reasons for making use of shrubbery; the utilitarian and the artistic. First, the shrubs keep the ground cool and moist about the roots of the trees and thus assist their growth. Second, their heavy foliage masses greatly add to the beauty of the plantation. Trees must be transplanted when young but a full grown shrub bears the operation as well as a young one. It is un-

necessary to dilate upon the question of their utility—suffice it to say that teachers elsewhere have found as ours may, by experience, that here lies the solution of the difficulty of school ground ornamentation.

Having decided upon the materials for our plantation, where shall we plant is the next point for consideration. We wish our grounds to be a picture of which the school house will be the central figure. The artist painting such a picture would delineate first the building, then the background, then the foreground. The school house is there already, and much as we may wish to do so we cannot change its situation, we can only supply the accessories. Following our model, therefore, we consider next our background. This should consist of trees of high growth, that will in time overtop the building. The picturesque effect of these can be imagined from the illustration. (No. 3). Another such tree may be planted where, when grown, it will shelter the building from the mid-day heat of the sun. Following the same plan with the sides of our grounds there remains only the foreground for consideration, and here there is little to be done. If possible let there be two entrances to the grounds, leading by gently curving paths to the door. Let your curves be as direct as is permissible, so that there be no temptation to take short cuts. The plot between these walks should be carefully kept. It may advantageously contain a flower bed or a couple of flowering shrubs. Then plant at each gate a tree or a clump of shrubbery and

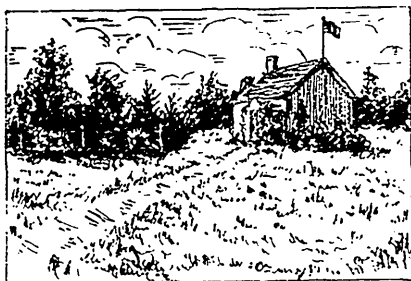


FIG. 2—AS IT MIGHT BE.

your picture is complete, unless you decide to put a coat of paint on the school house. Never permit your grounds to be hidden by a row of trees along the front. Anything planted there must be of low growth. In general it is advisable to keep the centre of the grounds open—trees are apt to be accidentally broken if planted there. Not only is border planting more effective, but the centre of the grounds must be kept open for the children to play on. If however, for any reason, an isolated tree is planted, let it have its protecting circle of shrubbery.

Begin with a plan, on paper or on the blackboard. Indicate by an irregular line the edge of your shrubbery; put a circle where you want a tree. Study it out carefully and then adhere to it, or at any rate do not change it on impulse. Having developed your plan stake

it out on the grounds. Let the limits of your shrubbery be as natural as possible—somewhat irregular, but clearly outlined.

Having thus laid out your ground, thoroughly break all the sod within the lines. Have the whole strip plowed, (and if possible sub-soiled), thoroughly pulverized with the harrow, and rolled. Then plant. It is impossible to emphasize too strongly the necessity for thorough preparation of the soil. Trees require a deep, mellow soil, and the fact that fifty per cent of trees planted die in the first year, is a strong commentary on the usual method of preparing the soil for them. If the soil be lacking in humus, a heavy dressing of well rotted manure should be well worked into it, but as Manitoba soil is in general well supplied with this necessary element, the texture is the principal consideration.

Have the whole space occupied, but not crowded. Leave no room for weeds, and if any crowd their way in, remove them. Remember that you are planning for a heavy mass of foliage, and group your shrubs about the trees with this end in view—those of largest growth nearest, the smaller at the edge. Whatever is hidden is wasted. Thus the proper order in planting is indicated, first



FIG. 3. —AS IT OUGHT TO BE.

the tree, then the shrub, the greater before the less. In this connection it may not be out of place to remind the reader that the shrub is not an ungrown tree. Caution should be exercised not to plant a small tree where a shrub is wanted. Study your species.

Evergreens are excellent for border planting, they are especially effective when planted in groups of three or four. Their faculty of keeping their foliage in winter suggests a special use for them as a screen for the outbuildings. Half a dozen spruce judiciously grouped will render these buildings much more modest than at present.

Flowers have not been mentioned, but if you wish to plant them there can be no nicer place than along the edge of your shrubbery, where they grow well and show well. Do not have too many flowers. A few judiciously placed are more effective than profusion.

In Europe they have school gardens, and similar plans are recommended for this country. It is certainly advisable that a plot be set aside for the cultivation of plants by the pupils. The conditions in Europe are, however, greatly different from ours. In the rural schools the school house is commonly at the teacher's home.

He lives in it or by it. In this country there is usually no one to care for the school grounds during the long vacation, and teachers change frequently. It is impossible for this reason to have uniformity and continuity of purpose; but with the interest in Nature Study that is now being fostered by our normal schools, we can, in the near future, hope for some such development.

MELVIN BARTLETT.

In the School Room.

GEOGRAPHY

That last lesson was evidently so absurd that no one troubled to criticize it. What was wrong with it anyway? Just this—that it is impossible for a teacher to question out of pupils that which cannot be questioned out of them, and that one cannot teach an “information subject” if he has not the information. Young people in our schools are hungering and thirsting for direct interesting information. Is it true that we hold it back and give them questions instead? There is nothing a pupil would like more than a talk on the productions of Italy by one who knew the subject. Then as teachers it is our duty to get full information ourselves and get books containing information, and “then to let the flood-gates loose upon the pupils until they are deluged with facts.” This everlasting questioning in subjects such as geography and history—in order to develop judgment and reason—is doing more to destroy life than perhaps anything else in the school. There are pupils who have studied a continent for six months in the manner indicated in the lesson of last month and who know less than they did at the beginning. They have had the true and false so co-twisted that they are sure of nothing. Just as a boy loves stories of adventure and discovery so he loves to read history and geography, and he will do enough thinking and reasoning during the drinking-in process. It is well to encourage pupils to tell all they know, but when this leads to scrappy, hap hazard, semi-false information for the class, the teacher should be quick to see it and apply a remedy.

ARITHMETIC.

If you have not forgotten the arithmetic solutions of the last two numbers you will appreciate the following criticism from W. J. M., Qu'Appelle :

“The Carpet Problem, page 14, issue of March 15th, 1899.

“I think a child might be allowed or even encouraged to perform some calculations, and to ‘juggle’ with some of the data ‘in the hope that something will turn up,’ even though as yet he cannot see how it will lead from the beginning to the end. This is the way I have to solve a great many problems. There should be no objection to a child’s finding out by this means something which otherwise the teacher would have to tell him; for in this problem something had to be told, even if interrogatively. A child thus left to himself may ‘turn up’ something which he believes will simplify the problem, and this with much less

assistance than would otherwise be required—may enable him to see the end from the beginning. We cannot give a child any rule for analyzing a problem or for finding the beginning or the road from it to the end. Each problem requires a special rule which applies to itself alone.

“As to the ‘proper assistance’ I think that questions like those given are very valuable, though unfortunately neglected by many teachers; but the process cannot be made short enough to form part of a lesson on the given problem. If such questioning is found necessary the problem should be put out of sight for a few days and the neglected lessons taught independently of it. Besides we have no right to assume, and it does not seem probable, that ignorance of these points was the cause of the children’s inability to solve the problems. However, the questions in the second part will show whether such is the case.

“In the second part I do not think the children should be told, all at once, that the cost of the carpet depends on two facts. They may be able to tell on what facts and how many. In (d) and the subsequent steps it seems to me the children are given altogether too much help. It ought to be enough to ask, ‘Could you find the other fact?’ and then tell them, ‘Go to work and find it.’ If they fail further discussion of the problem should cease; it has come before its time. It should be withdrawn and the pupils given sufficient practice in problems of one step less, i.e., from the same data to find how much carpet is required. When this subject is mastered they will have no difficulty with the ‘second fact.’”

With regard to the above criticism and that of Mr. Thompson in last issue, but a few words are necessary. It is urged that if a teacher gives questions in the proper order there is no necessity of ever helping a pupil with a problem. There is some truth in this, but it is not altogether true. What we were aiming at in the solution given was to show that in the solution of any problem the mind always follows a certain line of procedure, which might be termed analytic synthetic, and that the aim of the teacher should be to develop this analytic-synthetic power in his pupils so that they might help themselves. It should not be necessary for a teacher to propose to a pupil all the questions indicated in the solution, but if a pupil has formed a right habit of solving problems, he will ask himself these very questions, or proceed according to the method laid down. He will not do something with the figures hoping that something will turn up, but will perform every act intelligently and thoughtfully.

There is, however, such a thing as profitable juggling with figures as is suggested by W. J. M. For instance one may take an isosceles triangle and bisect the angles at the base by lines drawn to the opposite sides and then proceed to investigate the properties of the figure so formed. That is useful work and many important relations may be discovered. Still there are cases when a pupil must come face to face with a problem that he has not had before. The question is “how is he to attack it?” The answer is not “Leave it till a more

convenient season," or "Do something or other." but proceed to analyze something after the manner indicated. When this habit is developed a teacher will not be necessary in most cases. The trouble lies just here, that pupils, through vague guessing at methods, and through being questioned into an answer by teachers or shown, never learn how to help themselves.

We are thankful for the suggestive criticisms sent in.

Perhaps we need something more than methods in this department. Next month we wish an article on one of the following. Who will favor us? Remember this is our journal. Can we not help one another?

- (1). What to give the little ones for seat work.
- (2). How to decorate a room.
- (3). Recess on rainy days.
- (4). The teaching of manners.

W. A. McINTYRE

Inspection Notes.

The beautifying of school grounds and schools depends largely on the teacher. I know of only one rural school where the trustees have gone on: from year to year planting trees and improving the grounds independent of the teacher. It is a striking co-incidence that in that school the teacher is always one of the best and is in perfect sympathy with the work. There is always something that can be done under the most adverse circumstances. If there is no fence the teacher can concentrate his energies on getting one there. Then his successor can plant the trees. If nothing better can be done then the teacher can get some house plants in the school and teach the children to love and care for them. But something can be done. There is no community so dead to the beautiful or so lacking in interest in their children that cannot be appealed to in some way. It is at least possible for every teacher to have a pile of wood instead of a heap. It is possible to have the yard raked and looking neat. Let me say further that in all this work the more the teacher can keep himself in the background and the more he allows the children to plan and to do the more successful his work is. There is a moral question unsolved in all this that the teacher cannot afford to overlook.

T. M. M.

* * *

There are times, even on earth, when one appears to get a glimpse of heaven: when he finds himself, unexpectedly perhaps, in a realm where all is faith and hope and love, and where the spirit of the Master breathes in every word and act.

There is, or was, a school in this province over which presided a young lady. By this is meant (1) that she was young in spirit rather than young in years, (2) that she was lady-like rather than feminine. It may be that every school is blessed that has a teacher with these two qualifications—this certainly was.

The school consisted of some forty or fifty little children from five to ten years of age. They had no advantages outside of school.

beyond those afforded to children in other parts of the province. In disposition and habits they were, on coming to school, just about the average. Let me tell you what was being done in that school.

When the bell rang at 9 o'clock they came in without boisterous military precision, but one had to feel that "they were thinking order and quiet." The quietness was not in response to a command, but the national outcome of a mental state that was in harmony with everything else in the school. During the whole forenoon there was nothing that worked against this spirit of gentleness and peace and industry and good behavior. The teacher's voice, dress, manner and movement, and the blackboard work, slate work and school decoration were exactly in line with the spirit that the teacher wished to prevail in the room. She never appeared to be thinking in terms of the subjects of study but of the mental condition of her pupils. "Are they happy? Are they alive? Are they in condition for work? Does the whole morning's work make for righteousness?" There was not one thing done during the whole forenoon that was not done in a loving way.

A reading lesson was taken—"An icicle sat on a red brick wall, &c." The pupils saw the story and felt it and with look and voice and gesture they expressed it. And didn't they enjoy it? Then there was sight reading from the board. How they delighted to make out a new paragraph of one of Kipling's matchless stories! It was no word naming, but real imaginative activity, living appreciation.

Then there was number work, and but little of it, for as the teacher said, the work appeared to be foreign to their natural way of living at this stage and might well be left over for a little. But much or little, there was never an answer given that was not the result of thought on the part of the pupils, except such as were remembered from previous calculations.

The slates and exercise books were beautiful to see. It was a liberal education for a pupil to do the thinking that lay behind the arrangement of the work in his scribbler. ?

Then there were free and easy talks about books and pictures, people and events of the day, and one could but feel that during such talks there was soul-growth.

What was the room like? Simply beautiful in its cleanliness—a model to all trustees and teachers. What was the teacher like? Why, just like her work; the children loved her because she loved them and their efforts. She was the embodiment of loving sympathy, they were the embodiment of loving joy. They were learning to live and live more abundantly. She was never flurried or excited. She felt she understood what they most required, and they believed her and were only too willing to be directed. She was more to them in school than anything else, and they were more to her "both in and out of school" than every other attraction. She was a woman and a lady and they gave her the reverence that is always paid to such. They had souls to nurture, and in the hearing of lessons, in the devotional exercises, in all her words and acts she never forgot this.

It is impossible to forget the life, the buoyancy of spirit, the liv-

ing sympathy, the bright eyes and cheerful voices of that little room. And it is impossible not to associate with the scene these words, "inasmuch as ye have done it unto one of these the least ye have done it unto me."

Would you see that room?—then go to the junior department of the ——— school. Is it yours?

W. A. McINTYRE.

* * *

One of the most dangerous tendencies in modern education lurks in the undue exaltation of the written examination as a test of intellectual growth. While it is undoubtedly true that to the great majority of teachers the power to pass a written examination is not the sole determining factor in registering mental development, and while it is equally true that the one or two feeble attempts to introduce that "abomination of desolation" the uniform promotion machine, have met with little sympathy from teachers, yet in more or less virulent forms the disease exists and must be reckoned with.

In too many instances the reputation of the teacher is to a great extent at the mercy of those who believe that if he does not turn out an average crop of passes each year he is not doing good work. It would be difficult to imagine a condition better calculated to try the soul of a teacher than being compelled to choose between doing his duty at the risk of reputation, and sacrificing principle, thereby gaining the applause of the community.

Mr. Blank, late teacher of the Lovender school, is one of the most skilful and conscientious teachers of my acquaintance. His scholarship is of a high order. In ability he is far above the average. He is an upright Christian gentleman whose personal influence is bound to be a force for good in the community.

Some time ago Mr. Blank was called upon to face a crisis. The attendance in the Lovender school is large and the grades are many. The highest class consisted of some half a dozen young ladies and gentlemen who were ambitious to enter the teaching profession. In this ambition they were of course encouraged by their parents who held that as they paid taxes to support the school they should not be compelled to send their children away to be educated. Mr. Blank was well aware that the passing of a good percentage of candidates would be a feather in his professional cap and would greatly enhance his reputation in the district. He also knew that in order to prepare these candidates he would sacrifice the interests of the younger children who most needed his help.

Being a true teacher and not a time-server, Mr. Blank did his duty faithfully and impartially by the whole school. The candidates failed. The cry went up "what's the matter with our school? "No-body passes the examinations." The cry gained in volume until Mr. Blank was driven from the district. Those who raised the cry are well meaning people who love their children and are interested in their advancement. They believe in the abstract principle of "fair play" and, theoretically at least, are advocates of the golden rule, but "Father forgive them for they know not what they do."

▲ S ROSE

Editorial.

There will be only ten numbers of the Journal published each year, as with other school monthlies. Our next issue, therefore, will be the June-July number.

* * *

We have to thank many friends for their kind words of appreciation of the second number of the Journal. The June-July number promises to be better than any previous issue. The topics are of vital importance and the contributors well known educationists.

* * *

The excellent article on *School Ground Decoration* in this issue should be carefully perused by teachers and trustees. Too many of our prairie schools are like Figure No. 1. Show the article to your trustees and get them to prepare now for next spring. Make your school home as attractive as possible, and remember that the teacher must lead in the work.

* * *

A teacher starting a library in a rural school writes us to ask what we think about getting the cheap sets of standard authors recommended in the April issue under "Inspection Notes" as obtainable at low prices from Eaton's and Simpson's. Some experience with school libraries has taught us to avoid "cheap" sets as advertised at extremely low prices. Books for a school library should be well bound, and be printed in large type on good paper. Suitable sets of standard authors can be obtained at low prices from the regular booksellers and they are the cheapest in the end.

Reviews.

We are in receipt of Gage & Co's New Canadian Geography. The work is based upon Frye's Primary Geography. The Canadian maps have been prepared under the supervision of G. M. Dawson, head of the Geological Survey of Canada. About 50 pages, or one-fourth the book, is devoted to the Dominion of Canada. This section, and in fact the whole book, is most beautifully illustrated. There are special maps of the Dominion of Canada, showing the mineral resources, forest resources, wheat areas and the great lake waterways. There are also separate up-to-date maps of Manitoba, the Territories and British Columbia. The short section relating to the British Empire is of special value since the closer unity of the motherland and the colonies has become of vital interest. Teachers of the Canadian West are so familiar with Frye's Geographies that they will accord a hearty welcome to this Canadian edition.

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In a recent Atlantic, Marion Hamilton Carter tells how she and her fellow teachers reached the conclusion that their abilities were not such as to enable them "successfully to develop in the primary

school the flabby kindergarten intellect of the kindergarten child." "As we waited impatiently in the primary school for that first class of kindergarten-trained children who were to work without urging, and relieve us of all the responsibility of school government; we looked forward to a pedagogical millennium. The children came . . . They came especially to be praised for every trivial act or piece of work; they came expecting to do exactly as they pleased at any hour of the day and to be entertained at every hour of the day. . . . In a few days they made up their minds that we did not know how to teach, and about the same time we made up our minds that they did not know how to learn." Miss Carter's opinion is that as a result of kindergarten attempts to "train the children's imaginations" "most of the kindergarten children were in a state of half hallucination all the time," and "that in trying to reach the imagination the teacher had been merely injuring the ability to have clear and precise sense impressions." The "kindergarten" had evidently supposed "that to call a white stone a 'little white mouse' betokened more observation than to call it a 'lump of sugar,' while to call it 'a stone' betokened no observation at all."

* * *

A recent Blackwood's has two articles dealing directly with educational subjects. That on "Physical Education in Schools" is a protest against one-sided views of what properly constitutes physical education. "The mere exercise of boys in elementary drill and gymnastics without the careful consideration of the physical condition and the special requirements of individuals does not constitute physical education; nor yet, on the other hand, does an elaborate system of intricate drill and gymnastics, which has for its object the production of professional athletes or trained soldiers." This writer does not go in for half measures. He would give to physical education the place it ought to have in a properly planned system. He would have every boy on entering school undergo a thorough medical examination. "Special notice should be taken of the condition of his feet, teeth, eyes, chest, heart, and spine, as well as of his general muscular development, and of any malformation in his system." On the basis of the medical report the boys would be divided into three groups; (1) those physically fit and of active disposition, (2) those physically fit but indisposed to exertion, (3) those who from some bodily weakness or defect require special training." Each boy should possess a card in which his weight and measurements are entered from time to time, as in this way he will soon become interested in his own record and anxious to improve his own development.

The gentleman who writes the other article on "The Sins of Education" is in a very bad humor because in spite of the Education Act the people continue to read trash. He is particularly displeased with the proprietors of the cheap magazines. A great deal of what is said upon wishy washy substitutes for literature is well and forcibly said; but surely there is some cause for rejoicing in the fact that very many who read these cheap magazines formerly either read nothing or read what was positively injurious to mind and morals.

S. E. L.

Departmental Examinations.

(MANITOBA.)

It has been found necessary to issue the following instructions with regard to the work in drawing to be covered by those wishing to take the Entrance examination, or the examination for teachers in 1899. It will be observed that where instruction is given in all Junior Grades, as in the city, it is advisable and possible for candidates to follow Prang's Elementary Course, with its twelve drawing books and six manuals, but for those who have never studied the subject before it would be advisable to follow the course for Ungraded Schools, which consists of one drawing book and one pamphlet of instructions, or, if a more thorough preparation is desired, the course for Graded Schools with six drawing books and one complete manual of instructions. This latter course is well suited to those preparing independently.

ENTRANCE WORK.

- A. Thought of Art—from literature, observation, picture study, etc.
- B. General exercises in the three subject divisions of drawing.

1. REPRESENTATION—Sketches from nature-forms, common object models; ideas of good grouping, and of simplicity in rendering; a few steps in theory, e.g., rules relating to cylindrical objects, explanation of vanishing points.

2. CONSTRUCTION—Knowledge of how to read the "Conventions" of an ordinary working drawing; easy applications of these conventions, freehand or instrumental.

3. DECORATION—Acquaintance with a few typical figures in historic ornament, and with typical forms of arrangement—copies, readings, etc.; decorative treatment of flower forms, or of simple lines and spaces.

Text books of any course defined for Grades IV. to VIII.

PROGRAMME OF STUDIES, 1899.

Course for Ungraded Schools—1 Drawing Book, 1 Pamphlet Manual.

Course for Graded Schools—6 Drawing Books, 1 Complete Manual.

Elementary Course—12 Drawing Books, 6 Manuals.

TEACHERS' EXAMINATIONS.

1. SIGHT-DRAWING—Freehand sketches from nature-forms, from common objects, from models, or types of form; ideas of good grouping, and of simplicity in rendering. Theory—the ability to define and illustrate general principles of foreshortening and of convergence.

2. An understanding of the kind of work implied by the term Constructive Drawing; accurate knowledge of the "Conventions" commonly used in making a working-drawing; simple applications of these conventions, either freehand or instrumental.

Study of one or two styles in historic ornament and of typical forms of arrangement—from copies, readings, etc.; similarly a notice of elementary steps in design and in uses of color; decorative treatment of a flower-form, or of simple lines and spaces, e.g., a square of plaid, a book-panel, a rosette, etc.

Text books of authorized series outlining above work :

Course for Ungraded Schools—1 Drawing Book, 1 Pamphlet Manual.

Course for Graded Schools—6 Drawing Books, 1 Complete Manual.

At present the Elementary Course is advised only for city schools. The books I to VIII include many phases of special work, and the manuals are edited in separate parts.