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The School

(Registered)

Vol. V

Toronto, October, 1916

No. 2

	PAGE
Editorial Notes: <i>Teachers' Institutes, Conference of Canadian Universities, Correspondence Courses, Professor John Squair</i> - - -	67
The Middle School Examination in Art <i>Julien R. Seavey</i>	71
In the Classroom - - - <i>Frederick H. Spinney</i>	84
Diary of the War (Continued) - - - - -	87
Development of the Number Faculty - <i>Ethel M. Hall</i>	90
Sex Differences in Handwriting <i>Professor Peter Sandiford</i>	93
The Eastern Student as the Western Teacher <i>Rosalind Rowan</i>	97
How we spent our Noon Hour in a Country School <i>Hazel Willis</i>	102
Geographical Nature Study - - - <i>Edith V. Phillips</i>	104
Primary Studies in English and Number <i>Isabelle Richardson</i>	106
History of Literature in the High School <i>G. M. Jones</i>	113
Kindergarten-Primary Suggestions <i>Lillian B. Harding</i>	116
Educative Handwork - - - - <i>M. Isabel Wilson</i>	118
Nature Study for October - - - - <i>Arthur M. Wynne</i>	122
Hints for the Library - - - - 83, 92, 96, 101, 103, 105	
Notes and News - - - - -	127

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Address communications to THE SCHOOL, Bloor and Spadina, Toronto

Edited by the Staff of the Faculty of Education,
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Editorial Notes

Teachers' Institutes.—Teachers' Institutes were devised by the Americans as agencies for the training of teachers. In origin they were substitutes for Model Schools, Normal Schools, and Faculties of Education. And throughout their history they have attained their highest development where there were no Normal Schools and where teachers were untrained.

Of necessity, then, the development of the training school during the last generation has greatly modified the Teachers' Institute. And the development of the Summer School for teachers during the last ten or fifteen years has emphasized the influence of the training school. The Institute which remains in session for weeks at a time and which exploits an elaborate course of study has disappeared from the great urban centres and has all but disappeared from even the remotest rural districts. The programme of a typical American Institute of to-day provides for a session of two or three days and includes discussions on general as well as professional topics. And the professional topics do not always lie in the theory and practice of teaching. With increasing frequency they are selected from the field of the professional status and well-being of the teacher. They suggest criticism of educational legislation and counsel to educational administrators.

Training Schools and Summer Schools will continue to develop and Teachers' Institutes must continue to readjust themselves to this development—or disappear. What readjustments seem to be approaching in Ontario?

In no liberal profession, with the possible exception of medicine, is the expansion in professional knowledge so rapid to-day as in education. It is the special duty of the training school to store up and distribute this knowledge. In the meantime the length of the professional life of the average Ontario teacher steadily increases and with the increase the teacher moves further away from the training school as the source of professional inspiration.

The Teachers' Institute of the future should step into the breach deserted perforce by the training school, and distribute all *new* professional knowledge.

The Department of Education of Ontario has been unusually active during the last decade. Every educational agency of the Province has been re-surveyed in the light of more recent social and economic movements, and re-adjusted. And the activity promises to continue. But the teachers of Ontario are not always familiar with the readjustments. Many do not understand them. Not a few, it is to be feared, refuse to take interest in them. It should be the function of the Teachers' Institute and in particular of the training school instructors who attend the Institutes to announce and explain all readjustments. Out of perfect understanding by the teacher will come not only wisdom in counsel but also efficiency in school work.

The Ontario Teachers' Alliance is an organization to safeguard the rights and privileges of teachers. It is a trade's union for teachers. The Alliance has found that it cannot do its best work for teachers as an organization wholly independent of the Teachers' Institute. Here and there functions overlap and division of interest results. It has asked that its duties be assumed by the general Teachers' Institute of Ontario and that it be merged into that Institute. The union, if effected, will give the Teachers' Institute in Ontario a special interest in the rights and privileges of teachers. The Institute will become, in a new and a worthy sense, it is to be hoped, the guardian of the profession and of its members. Here lies another sphere of action for the Institute.

Conference of Canadian Universities.—The Universities of Canada held their third annual conference in May last in Montreal. There is need of these conferences. No one will urge the standardization of universities but all friends of Canadian Universities will endorse any agency which will clarify the aims of universities, familiarize the country with those aims, and give to the younger or the smaller universities the stimulus of the older and larger. These conferences are in some ways unique. They represent a union out of mutual respect and for mutual betterment among educational institutions that have widely different origins and ideals. Some are denominational universities, some private or endowed, some semi-public, and some public and state-maintained. In its larger aspects this union gives promise of unity amid diversity in the educational future of Canada. In its immediate effects it will bring home to the people of Canada their duties in the maintenance of universities, and to the universities themselves the economic and educational folly of attempts to maintain all modern departments and faculties at each university seat.

The conference of May last gave much attention to war topics. It discussed the relation of the universities to physical and military training. It also discussed the question of education after the war. In the greater

struggle that is to follow the signing of peace, the struggle of workshops, offices, and farms, victory will go with knowledge. The universities of Canada must prepare for that victory. They must not only distribute knowledge. They must also expand its bounds—discover it. To do so they must begin seriously to organize research work.

One feature of the last conference will interest, if it does not irritate, many teachers. The conference was unwilling to recognize education as one of the professional faculties side by side with medicine, engineering, and law. In this action history repeats itself. At various periods in the past the universities have refused to recognize mathematics, history, English, the modern languages, the natural sciences, engineering, forestry, etc. They have outgrown their prejudices. They will ultimately recognize education. For the present, however, the point of view of the universities of Canada is important. It is the point of view which in some States of the Union may help to explain the lack of sympathy, if not open hostility, between the universities and the Departments of Public Education. It is a point of view which may tend to delay among the educational agencies in Canada that co-operation and co-ordination which the universities themselves should never cease to foster.

Correspondence Courses.—The Correspondence Course is a substitute for classroom instruction, but a very poor one. It deserves approval where classroom instruction is beyond the student's reach. It deserves the largest measure of approval when it supplements classroom instruction in part or whole.

Queen's University, Kingston, has developed her correspondence courses in arts and education in the spirit of this definition. In the same spirit the University of Toronto has administered her correspondence courses in education and recently organized her correspondence courses for the bachelor's degree in arts. But to the great body of the teachers probably the most interesting correspondence courses in Ontario are those conducted by the Extension Committee of the University of Toronto in co-operation with the Provincial Department of Education. These courses include the subjects of the Normal Entrance, Faculty Entrance, and Commercial Specialist examinations. They are organized to supplement the Provincial summer courses in Normal Entrance, Faculty Entrance, and commercial work, and are open chiefly, if not entirely, to teachers who cannot attend a High School but who intend to register in a summer course. And in the three years of their existence they have made a large appeal to teachers. Do they appeal to you?

Professor John Squair.—Professor John Squair has retired from his post as head of the department of French in University College, Toronto. Students of the University of Toronto during the last thirty

years have known Professor Squair and his work. Through them, and particularly through such of them as have become High School teachers, Professor Squair and his work have become known wherever teachers and pupils gather together in Canada.

Professor Squair is a scholar. He is the author of text books which are read wherever English is spoken. He has exercised a marked influence upon the administration of education in Ontario. But those who know Professor Squair best, and particularly his old students, think of him not as a scholar, author, or administrator, but as a teacher. He has been a great teacher whose greatness consisted not merely in the content of what he taught but also, and chiefly, in the spirit in which he taught. He was intellectually honest. On its higher side this honesty gave him a noble faith in scholarship for its own sake. On the lower side it made him punctual, methodical, and singularly accurate. And he had unlimited industry. He had a fine zest for work and something of this fine zest he gave to his students. No two qualities are more necessary to a teacher than honesty and industry, and no Ontario teacher of the generation just passing possessed these in a larger measure than Professor Squair. Through his many students these have become his legacy to Canadian education.

With an idea of testing his pupils' knowledge of their mother tongue a schoolmaster wrote on the blackboard the well-known proverb, "A wink is as good as a nod to a blind horse." Then he told the class to re-write this saying, using their own words, but retaining the original meaning of the sentence. Some of the results were good, and others bad, but the schoolmaster nearly fainted when he read the attempt of one bright little lassie. She had written: "A spasmodic movement of the optic is as adequate as a slight inclination of the cranium to an equine quadruped devoid of its visionary capacities."

In the midst of the heated dissension on points connected with certain historical sensations, which their teacher had sought to impress on them, the two grandchildren appealed to their grandfather, who sat musing and puffing his pipe in the corner, for support, says the *Bohemian*.

"Grandpa," cried the eager brother, "who was it killed Caesar; Cassius or Brutus? I say Cassius."

"Wal," replied the grandfather, suddenly becoming grave and taking his pipe from his mouth, "it war one or t'other. Let me see—Yes, I guess 'twar the man you said."

"And Sis says it was Marie Antoinette who got put to death in France," again cried the youth, triumphantly glancing towards his sister, "but I say it was Mary, Queen of Scots."

"Now, you may be right there, too," ventured the involuntary vindicator, after fidgeting in his chair. "Come t'think of it, 'twar Mary, Queen of Scots that war electrocuted in France."

At this the young girl's eyes flashed.

"Grandpa," declared she, stepping before him and eyeing him sternly, "you don't seem to know anything about it."

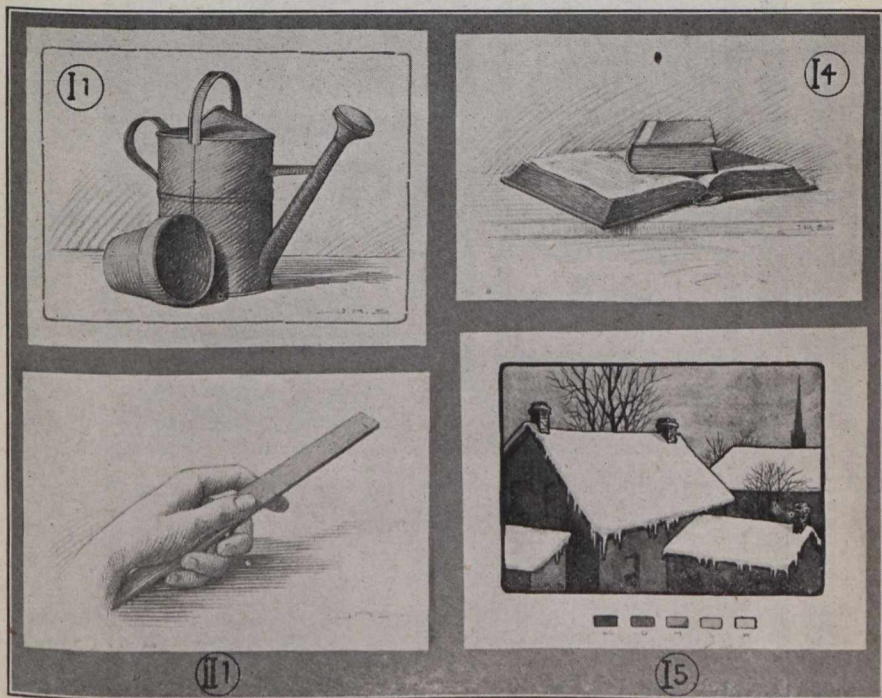
The old man's head went up as if shocked. "Th' truth is, children," he then admitted, as he passed his free hand over his head, helplessly, "your grandfather ain't read th' newspaper very carefully this week. I'm a little mite behind."

The Middle School Examination in Art

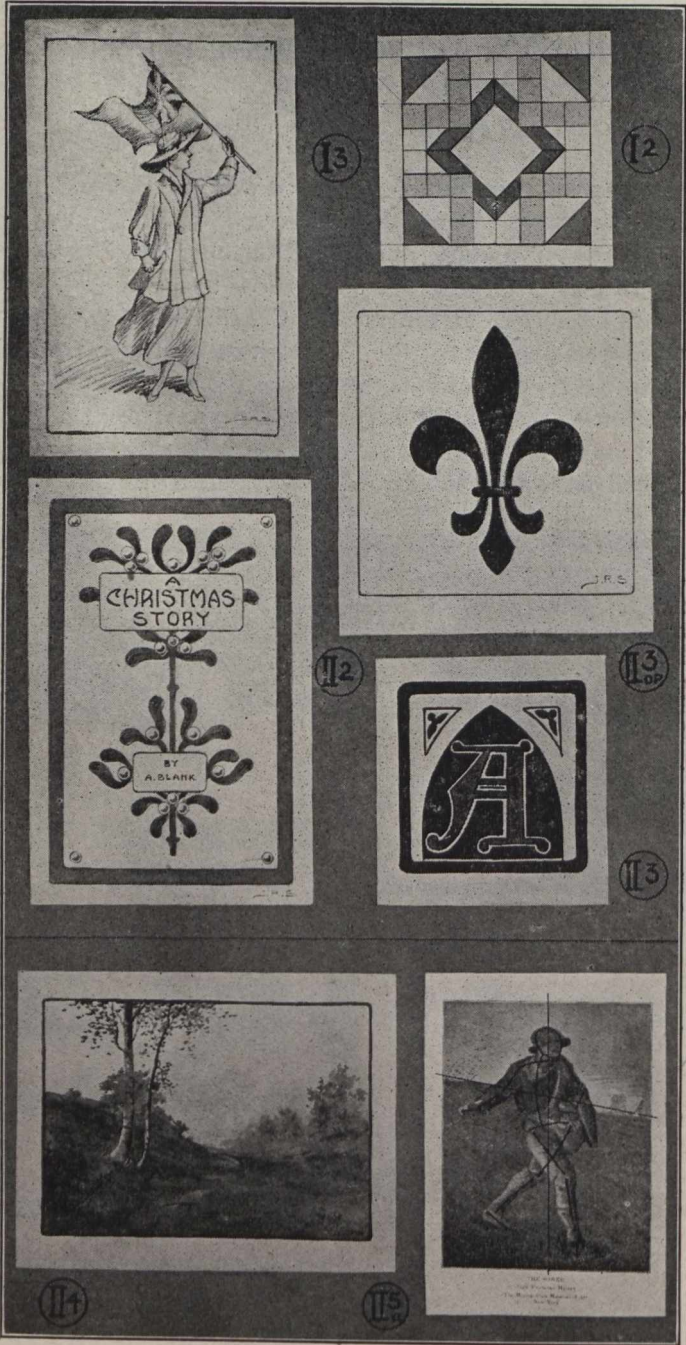
JULIEN R. SEAVEY
Art Instructor, Hamilton Normal School.

AS the publication in *THE SCHOOL* last year of the question papers in Art, with valuations and answers, appears to have created a wide interest among pupils and teachers and to have had a beneficial effect on the past season's work, it seems well to consider what the result has been at the examination of 1916.

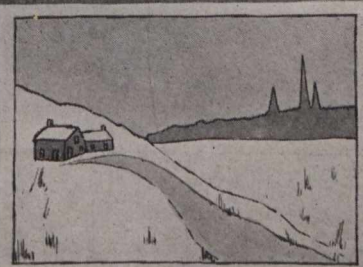
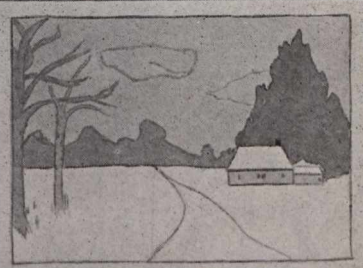
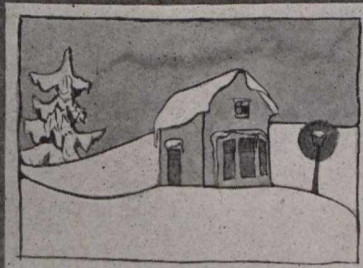
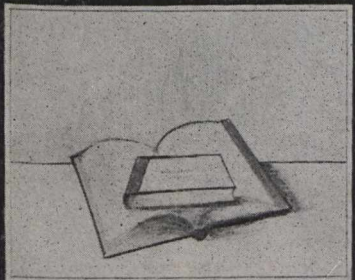
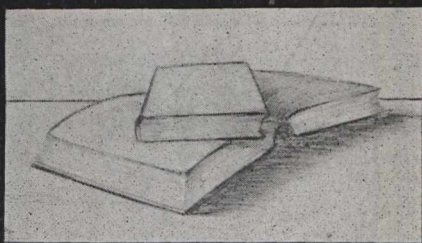
The earnest endeavours of the Department of Education to improve the subject in all its phases and to prepare the teacher-in-training with an appreciation of the beautiful and a fairly able expression of it, have led to an art examination where the study of masterpieces in art, facility with the pencil and a feeling for good design take a prominent place.

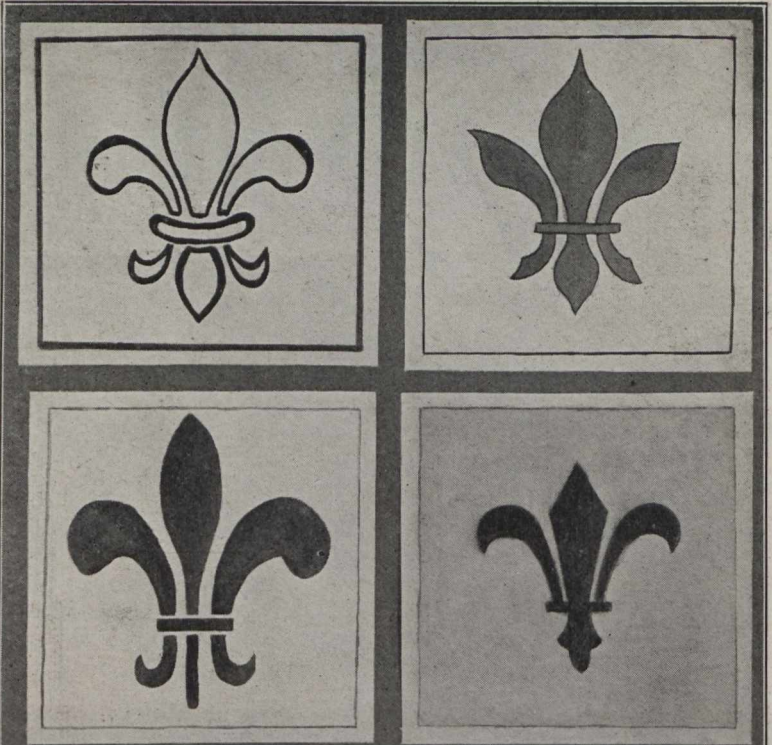


It will be noticed that the two papers, as set this year, require a better knowledge or at least a familiarity with the simpler forms of historic styles of ornament or of architecture, together with what is required for a fuller appreciation of modern design.



[Note:—(I 1) is the answer to question 1, first paper ; (II 4) the answer to question 4, second paper, and so on.—Ed.]



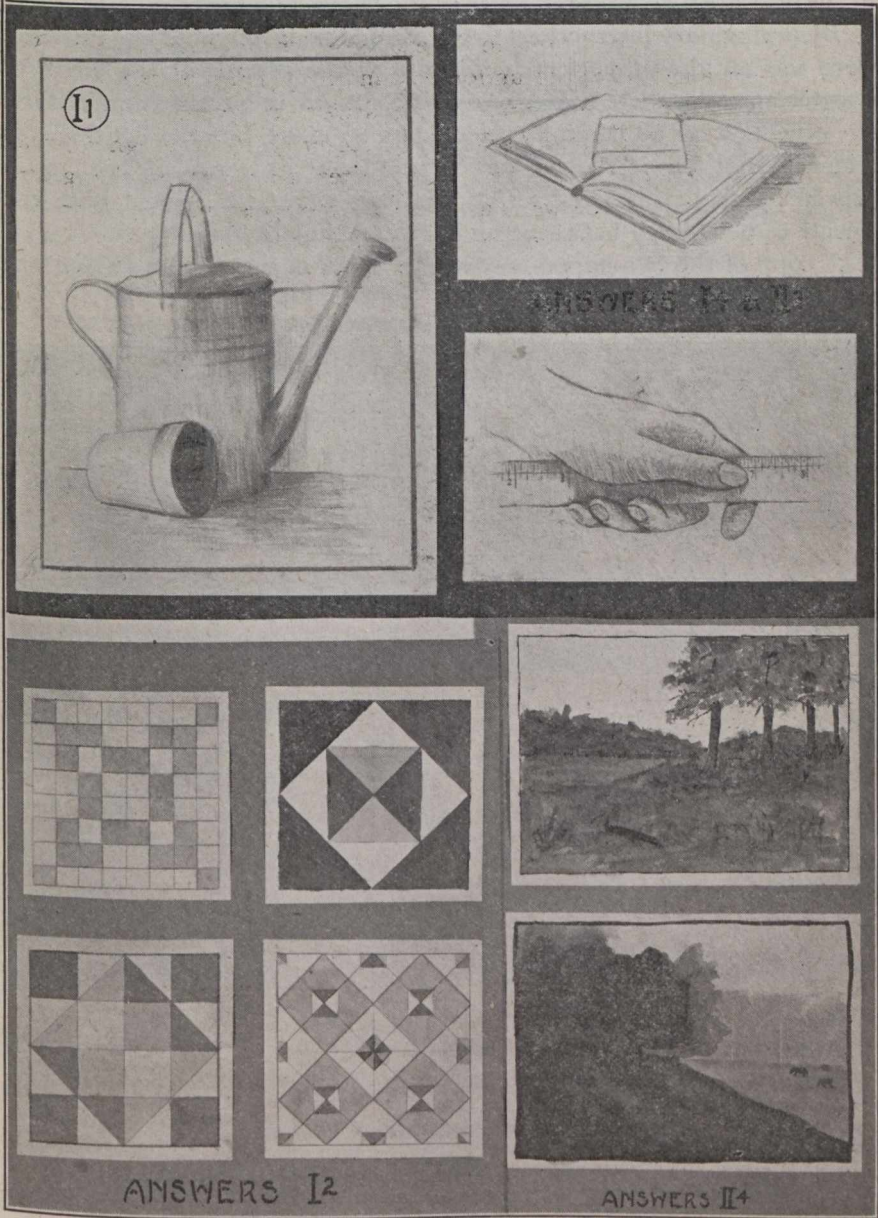


ANSWERS II 3 OPT.



ANSWERS II 3

The questions also require greater exactitude in measurements of sizes and shapes. The hints contained in a former article on these points



were evidently not lost on teachers and pupils. It is to be hoped that any deductions to be made from these articles and an inspection of the accompanying illustrations will be found of benefit.

Options, which are to be found on both First and Second Papers, did not make the work of the candidate any easier, but they gave scope for individual style or a preference in the choice of a medium.

By preliminary instructions to the examiners throughout the Province there was an almost perfect uniformity in the placing of the group of a watering-can and a flower-pot to be drawn in pencil from nature. The objects were all carefully selected as required, but the lighting was evidently not all it should be. Candidates' drawings of the group showed by the cast shadows that windows were just beyond, with the objects to be studied between the light and the observer.

A copy of the two papers, as set, each to be answered in two and one half hours, follows:



I. FIRST PAPER.

NOTE 1.—At the beginning of the examination the Presiding Officer shall provide each candidate with five sheets of drawing paper taken from No. 2 Blank Drawing Book. Extra sheets shall be provided if necessary.

NOTE 2.—A separate sheet of paper shall be used for the answer to each question.

NOTE 3.—The answer paper shall be numbered, and folded once across only.
(Four questions constitute a full paper.)

1. Make a freehand pencil drawing of the group of objects submitted, the greater dimension of the sketch to be about six inches. Show light, shade, and cast shadows. Using a heavy line, make an inclosure of suitable size and shape for the drawing.

2. Design, with the aid of pencil and ruler, a pattern for a floor made of mosaic blocks or tiles, showing the joints. Finish with water colours a section four by four inches. The colour scheme is to be white, light blue, and dark blue.

3. In an inclosure of suitable size make a pencil drawing of *one* of the following:

A soldier, cadet, or scout, in action.
 A woman busy in the kitchen.
 A boy playing marbles.
 A girl waving a flag.

Make the figure about six inches high.

4. Draw from memory, with pencil, in freehand perspective, the group described as follows:—

A large, thick volume with heavy binding is lying open, at an angle, upon a level surface, directly in front of the observer, and below the eye level. Another book, somewhat smaller, lies closed upon the first, and is square with the observer. The light falls upon the group from the left.

Show, with soft pencil, the shadings and cast shadows.

The greater dimension of the drawing shall be about seven inches.

5. Paint, in water colours, in flat tones, a decorative winter landscape showing a gray sky and snowy roofs, with a church steeple or tree-tops beyond.

The sketch is to be five by seven inches.

Separate values of black, or sepia, or ink, should be used.

II. SECOND PAPER.

NOTE 1.—At the beginning of the examination the Presiding Officer shall provide each candidate with five sheets of drawing paper taken from No. 2 Blank Drawing Book. Extra sheets shall be provided if necessary.

NOTE 2.—A separate sheet of paper shall be used for each drawing.

NOTE 3.—The answer papers shall be numbered, and folded once across only.

(Four questions, of which one shall be number 5, constitute a full paper.)

1. Holding your ruler in one hand, rest the hand, thumb upwards, on the far side of your drawing paper. Draw, with pencil, your hand and ruler as you see them in that position. Make the sketch about six inches in its greater dimension, and show light, shade, and cast shadows.

2. Fold a sheet of the 9 by 12 inch paper to 6 by 9 inches. Design, in pencil and water colours, on the front of this folder, a decoration suitable for the cover of a booklet entitled "A Christmas Story", using this title in suitable lettering as a part of the design. Finish the lettering, and at least one-quarter of the page, to show the effect.

3. Within an inclosure four inches by four inches, design an ornamental initial letter which shall be suitable, when reduced, for use as the first letter of the inner page of the folder in question 2. The design shall have as part of its ornamentation a Gothic arch, and shall be painted in the flat in red and black.

or

Make, with pencil and water colour, within an inclosing square six by six inches, a conventional fleur-de-lys (Gothic lily of France) of suitable size. Finish the ornament with heavy outline.

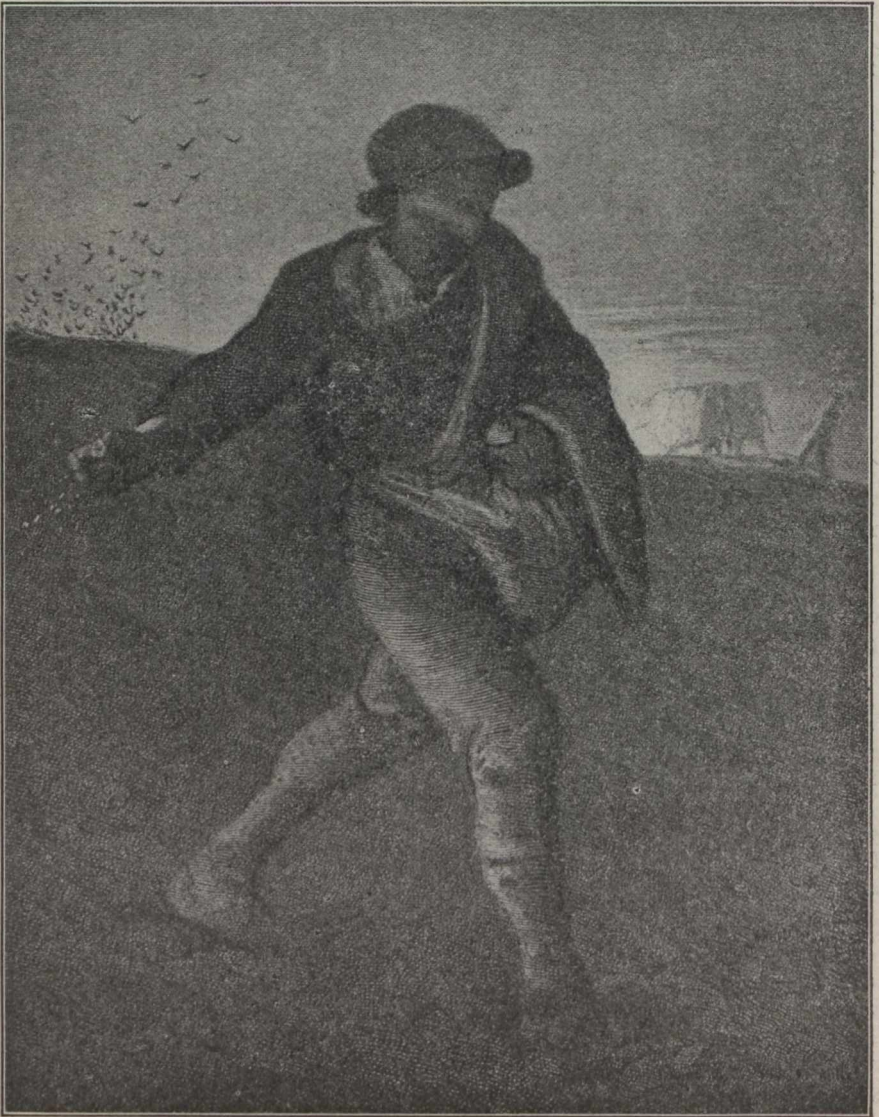
4. Paint, with water colours, a landscape composition, five by seven inches, representing "An Autumn Hillside", and containing sky, distant woods, a pasture, and foreground trees.

5. After a study of the accompanying picture answer the following, using pencil and the regular drawing sheets:—

(a) Reproduce in an oblong, similar to that of the picture but larger, the strong simple lines which indicate (i) the space division, (ii) the central figure's swift movement.

(b) Show how interest in this picture is aroused (i) by the subject (ii) by the artist's method of treatment.

- (c) Give a detailed description of the composition of this picture, as to:—
- (i) the space division and its effect upon the theme;
 - (ii) the eye-level and its effect upon the central figure;
 - (iii) the movement and the artist's method of making it impressive;



- (iv) the contrasts of dark and light and their effect;
 - (v) the bearing upon the main subject of the grain sack, the flock of birds, and the ploughman and oxen.
- (d) (i) What school or artists is represented by this picture?
- (ii) What are the leading tenets of that school?

The associate examiners this year followed the now accepted plan of marking drawings, of assigning definite marks for certain to-be-looked-for qualities of the work, and of deducting for mechanical aid where entirely free-hand drawing was required. Faintly ruled lines under darker freehand strokes are now sought and detected (I 3).

An interesting feature of the assignment of marks on the floor pattern (I 2) was the use by each examiner of a pair of mirrors, as introduced by the writer some time ago, to test the true value of the candidates' design when it is repeated over a greater surface. They are held upright, meeting at an angle of 90 degrees at the corner of the pattern. By advancing, and receding the mirrors, so held, over the design, it can be seen at once whether the candidate has obtained all the effect possible out of the units chosen and the way they have been used in the design.

The marks assigned on both papers and reproductions of the type of answers required are appended. The originals were done on No. 2 Blank Drawing Book paper with school materials.

III. VALUATIONS.

I. FIRST PAPER.

Four questions = 100 marks divided by 2 = 50 marks.

1. Watering Can, etc., in pencil.

Size 6".....	2
Truth of outlines and foreshortening.....	10
Pencil handling, technique.....	3
Light, shade and cast shadows.....	8
Inclosure of suitable size and shape.....	2 = 25

For ruled lines deduct a maximum of 5 marks.

2. Floor Pattern.

Size 4" x 4".....	2
Effectiveness if repeated.....	10
Practical Joints.....	5
Colour Arrangement	}
Management of the medium.....	

3. Figure in Pencil.

Size about 6".....	2
Action, pose.....	10
Anatomy, detail.....	8
Pencil handling, technique.....	3
Proper inclosure.....	2 = 25

4. Books.

Shape, perspective, convergence.....	12
Lighting, shading.....	8
Pencil handling, technique.....	3
Size, about 7 inches.....	2 = 25

Deduct a maximum of 5 marks for ruled lines.

5. Decorative Landscape.

Size 5"×7".....	2
Composition, areas, perspective.....	10
Contrast.....	5
Decorative treatment and handling.....	8=25

II. SECOND PAPER.

Four questions=100 marks divided by 2=50.

1. Hand.

Size about 6".....	2
Truth, anatomy, proportions.....	15
Shading, cast shadows.....	8=25

For ruled lines deduct a maximum of 5 marks.

2. Cover Design.

Size 6"×9".....	2
Design, layout, arrangement.....	10
Lettering.....	5
Water-colour work.....	8=25

3. Ornamental Initial.

Size 4"×4".....	2
Correct Gothic Arch.....	10
Initial: Gothic, Old English or Lombardic—Must be in harmony.....	10
Colour effect.....	3=25

or

(Option) Historic Ornament.

Size 6"×6".....	2
Fleur-de-lys:—Historic.....	10
Conventional.....	
Balance, symmetry.....	10
Colour effect.....	3=25

4. Water-colour Landscape.

Size 5"×7".....	2
Composition—arrangement perspective }.....	15
Handling of the medium.....	8=25

5. Picture Study.

(a) Space division.....	{ Shape of picture..... 1 Spacing..... 2 Action lines..... 2 }	5
(b) 1. Mystery—Dignity of Labour.. } 2. Lack of detail—size and action }		6
(c) 1. Ground 2/3 of picture; shows hillside..... 2 2. Low eye level makes figure above..... 2 3. Slope of hill increases action..... 2 4. Head dark against light sky, etc..... 2 5. Sack carries grain for the work; birds are destroying the result; man with oxen is protecting it..... 2		10
(d) Barbizon school or school of Fontainebleau. Studying from nature. Realistic.....		4=25

In taking up the students' answers one by one the criticism of the work will indicate to teachers and pupils wherein they fell short in last season's work.

A decided improvement in the teacher's instruction and in the pupils interpretation is noticeable, as the percentage of failures in Art is much less than heretofore.

The papers did not seem to have been at all too difficult nor too long.

Where the subjects have been well taught there was good work shown, but in pencil drawing there is not sufficient knowledge of what constitutes finish or delicacy of handling. Very few know how to treat a given subject decoratively. The reduction of a landscape or a group of objects or figures to a formal simplified pattern, an outlined study of the masses or main shapes, was not known to many of the candidates.

Some of the best work by the students is herewith shown in reduced form:

Deductions.—FIRST PAPER.

(I 1) Students, when asked to make a group of a certain size, do not often establish those limits at first and so many of the watering cans could hardly be got on the paper.

The methods of shading by strokes for flat and for curved surfaces are not well known. Smearing and rubbing to get a tone is never permissible in pencil work. A candidate who resorts to that style of shading will never shine as an illustrator, nor in commercial lines of art work.

(I 2) The relation of areas, proportions in spacing, the balance of tones of colour (in this case three values of one colour) and the effectiveness of simple arrangements when thoughtfully managed were what counted in this question. The answers herewith illustrate simple but striking patterns with a commercial value.

(I 3) In the figure sketches, a girl waving a flag was the favourite subject. Patriotic girls with a few scouts or soldiers predominated. Good shading and anatomy were scarce.

(I 4) One and two point perspective was well understood, but that feeling of dependence on the ruler to converge the lines when freehand drawing was asked for, caused many a group of books to suffer.

(I 5) Not two per cent. of the candidates knew how to reduce the landscape. They had in their minds its lowest terms on paper.

SECOND PAPER.

(II 1) This question gave everyone an equal chance to show what he or she could do at pose drawing, whether right or left-handed. Nearly all tried a hand at it. In this instance also the pencil technique was weak; roundness was lacking: though freehand was required, the ruler was often used.

(II 2) Many of the cover designs were started as though doing up a package, instead of folding the paper once to make a cover for a composition or pamphlet.

The designs did not often conform to modern ideas of good spacing or the arrangement of appropriate decorations, suitable to or suggestive of Christmas. In this connection it is not so correct to use a Roman lettering. Something less pagan, more Gothic or monastic, seems suitable, and that feeling for Christian tradition on the cover should make the design for the initial letter inside harmonize in (II 3) where the quaint style of alphabet in a Gothic setting should carry on the idea. The "eternal fitness" applies here, and the teacher should show the class or at least suggest, what to use for certain festal occasions in the way of designs that embody the fundamental idea or tradition best suited to the day they celebrate. An ornamental letter or initial should contain, even show at a glance, the character of the text that follows. Its embellishment should indicate the subject-matter of the page. It is well also to have the letter itself so placed in the block as to read directly into the other letters of the first word.

(II 3 option) The most common historic ornament of the French is the fleur-de-lys in its variations, and it is also Gothic and a Christian symbol. Few candidates were sure of its triune form. Beautiful units are not all found in Greek art.

(II 4) In previous years where a question of this kind has appeared on the papers the candidates have done some very good landscapes in answering it. This year interpreting the required autumnal aspect of the subject bothered them and many of the sketches were in summer greens. Teachers should see that the students subdue the distant parts of the landscape, gray it and fade away to almost sky tints in the far distance, keeping browns for the nearer parts. In the fall term they may try some of the warm-hued tones and lovely colour of our Canadian autumn. In the spring have one simple subject rendered with the tree forms carefully studied but lightly garbed in the yellow greens of budding nature,—later the full foliated masses of summer greens.

(II 5) The picture study, no longer optional, is waking up uncultivated appreciation, but the teaching of the subject, the discovery of the hidden beauties and underlying thoughts in the composition of masterpieces of art has quite evidently fallen short of its mark. In uncoloured reproductions of famous paintings much of the effect is lost to us. We are forced to depend largely on the drawing in forming an estimate, but a microscopic inspection of the details cannot give the broader meaning of the picture. A chemical analysis of its component parts does not impart to us the feeling, the thought, or the story intended to be conveyed by the artist. Most masterpieces carry a message to us. The powerful or beautiful interpretation of that unspoken word is what makes it great.

Young students cannot be expected to see in any masterpiece the elements of its greatness unless the maturer teacher has been prepared to unfold to them the beauty of its lines, its clever composition, its fulfilment of the laws of design, its contrasts of light and shade, its colour effects, and above all the thought it conveys to our minds.

The school of art, of which realistic brotherhood Millet was a member, the candidates knew nothing about, and as to the *tenets* (II 5d) of that school, their knowledge of English had not gone as far as that apparently. Perhaps they had better have written on the Latin. They relied on the printed title below the picture in their estimate of it.

On the whole the outlook is far from discouraging to the art teacher, for the results of the years' work are satisfactory, and there is plenty of evidence of better training in art down through the grades where the foundations lie.

Book Reviews

Picture Stamps for use as rewards and incentives. Thomas Nelson & Sons, Toronto. Teachers will find these stamps (2½"×1¾") very popular, especially with younger children. They have an educative as well as an artistic value. There is a Zoo series, an Author series and many others. All are perforated, gummed, and printed on non-curling paper. If used as rewards for punctuality, attendance, perfect lessons, etc., they should induce children to put forth their best efforts. Each will strive for another picture to complete his collection. Primary teachers may find various other uses for these stamps.

The Insect Notebook, by James G. Needham, 143 pages, published by the Comstock Publishing Company, Ithaca, N.Y. Price 30 cents. This book is of the same type as several that have been already reviewed in *THE SCHOOL*. It contains blank spaces to be filled with descriptions of various kinds of insects in their various stages. There are a good many outline sketches of insects to be completed with proper detail and colouring. The value of such a book is quite limited.

G. A. C.

The Study of Plants, by T. W. Woodhead, 440 pages. Published by the Clarendon Press, Oxford. Oxford University Press, Toronto. The whole tendency of botany teaching in secondary schools is to leave the field of the past which made the study of morphology the main aim of botany teaching, and to view the plant rather as an organism surrounded by an environment. The plant is suited more or less perfectly to its environment and the structure is studied not as an end in itself but in order to understand how the plant lives. A course in botany along these lines seems to the present reviewer to be the kind of course most suitable for the High School, and the book under review offers an almost ideal text. Structure is made subsidiary to function throughout and the whole treatment provokes the greatest admiration. There is a freshness and beauty about the illustrations that is very pleasing, and the photomicrographs are beautifully executed. The person who reads this book cannot but be impressed with the fact that botany is interesting when properly presented.

G. A. C.

Converging Paths, by E. T. Campagnac. Cambridge, at the University Press, 1916. Pp. ix+113. Price 2/6 net. J. M. Dent & Sons, Toronto. Professor Campagnac writes with distinction. He is also an original thinker, or rather, he looks at old problems from new and unfamiliar angles. This collection of essays, embracing as it does such topics as religious instruction, commercial education, standards in taste and morals, the significance of rhythm in Plato's scheme of education, and oratory and virtue, hangs somewhat loosely together; yet, nevertheless, a thread of continuity is discoverable to the faithful. The weakness of the work is the weakness of English education—it turns too persistently towards the past for its inspiration; its strength is the strength of the best Oxford product—a discussion of fundamental principles in a scholarly, sincere, yet humorous fashion.

P. S.

In the Classroom

FREDERICK H. SPINNEY
Principal, Alexandra Public School, Montreal.

FRACTIONS—Lesson III.

(NOTE:—The class is divided into three groups, ranging from the “dullest” in Group I to the brightest in Group III.)

Group I. (consisting of 12 pupils) went to the board.

The teacher’s aim was to introduce “multiplication of fractions” without “instruction” or “explanation”.

He dictated:

$$\begin{aligned} 3+3+3+3+3+3+3+3 &=? \\ 7+7+7+7+7 &=? \end{aligned}$$

The pupils, of course, wrote the answers readily, and smiled at the simplicity of the operation.

“Work those exercises in a shorter way, using a different sign.”

All wrote:

$$\begin{aligned} 7 \times 3 &= 21 \\ 5 \times 7 &= 35 \end{aligned}$$

The teacher then dictated:

$$\begin{aligned} \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} &=? \\ \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} &=? \\ \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} &=? \end{aligned}$$

The pupils were all sufficiently familiar with addition to readily write the correct answers.

“Write those exercises in a different way, using a different sign.”

Seven of the pupils immediately saw the connection between the latter exercises and the former; and expressed the results:

$$5 \times \frac{1}{2} = 2\frac{1}{2} \qquad 5 \times \frac{1}{4} = 1\frac{1}{4} \qquad 5 \times \frac{1}{8} = \frac{5}{8}$$

The other five pupils did not quite understand the connection between the two sets of exercises. The teacher did not take the time to explain the matter, as he trusted that it would be clear before the remaining two groups had finished with more difficult examples of a similar kind.

Group I. resumed their seats; and Group II. (consisting of 11 pupils) went to the board.

The teacher dictated:

$$\begin{aligned} \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} &=? \\ \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{3}{8} &=? \\ \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} + \frac{5}{8} &=? \end{aligned}$$

Seven of the pupils wrote the answers: $15/4$; $15/8$; $25/8$. The others wrote $3\frac{3}{4}$; $1\frac{3}{8}$; $3\frac{1}{8}$.

“How many think that Harry’s answer is the better form?”

The majority decided in favour of Harry’s answer, which was in the form of a mixed number.

“Write those exercises in a shorter way with a different sign.”

One pupil forgot the majority vote, and again expressed his answer as improper fractions. He needed but a question from the teacher to cause him to make the necessary correction.

Group II. resumed their seats; and Group III. (consisting of 10 pupils) went to the board.

"Now, I wish you all to watch sharp, as I intend to give Group III. some very hard questions; if they cannot do them, I'll call on some pupil in Group I. or Group II. to help them out."

This was a sufficient reminder to secure the most eager attention on the part of every pupil.

The teacher dictated:

$$\frac{1}{2} \times 7 = ?$$

$$\frac{2}{3} \times 11 = ?$$

$$\frac{1}{3} \times 8 = ?$$

$$\frac{1}{4} \times 11 = ?$$

$$\frac{1}{8} \times 9 = ?$$

$$1\frac{1}{8} \times 5 = ?$$

The last example puzzled every pupil in Group III. A few pupils of the other groups went to the board and wrote what they thought was the correct answer; but none succeeded.

"That seems to be too hard; but perhaps you'll think of some way to do it by to-morrow."

The teacher often allowed the lesson to end in this manner, with curiosity at a high level. As he did not intend to have any written work in multiplication of fractions for more than a fortnight, he could afford to leave many difficult matters for future consideration.

The weak point in early explanations is that the teacher is deceived by the ready response of the bright pupils; talks over the heads of the dullest; undertakes too much in a given time—all of which leads to confusion in the minds of all except the very brightest.

When a child once becomes confused concerning some principle in arithmetic, further progress in that principle is impossible. The difficulty of instruction is greater than it would be if no previous instruction had ever been attempted.

LESSON IV.

Group I. went to the board. The teacher, remembering that this group had failed to understand "multiplication of fractions" clearly on the previous day, took the matter up in a different manner.

He held up one eighth of an apple, and asked the class to write the name of that part.

All wrote $\frac{1}{8}$.

"Multiply it by 3"—and he held up three parts.

Every pupil wrote $\frac{1}{8} \times 3 = \frac{3}{8}$.

Holding up one part again, he said, "Multiply it by five".

Every pupil wrote $\frac{1}{8} \times 5 = \frac{5}{8}$.

"Multiply one eighth by 8".

The pupils wrote $\frac{1}{8} \times 8 = 1$.

"Now, try some more exercises without looking at the apples." The teacher dictated:

$$\frac{1}{4} \times 3 = ?$$

$$\frac{1}{8} \times 4 = ?$$

$$\frac{1}{4} \times 6 = ?$$

$$\frac{1}{2} \times 3 = ?$$

$$\frac{1}{4} \times 5 = ?$$

$$\frac{1}{8} \times 9 = ?$$

"Now, erase everything except the signs and answers."

Then, there remained:

$$- \times - = \frac{3}{4}$$

$$- \times - = \frac{1}{2}$$

$$- \times - = 1\frac{1}{2}$$

$$- \times - = 1\frac{1}{2}$$

$$- \times - = 1\frac{1}{4}$$

$$- \times - = 1\frac{1}{8}$$

"Now, replace all that you erased."

This was a most enjoyable exercise; but only one pupil in the group at the board succeeded in replacing all the missing numbers correctly.

Group II. went to the board.

The teacher divided a card into five equal parts. He held up one part.

"Write its name."

The pupils wrote $1/5$.

"Multiply it by three"; and the teacher held up three parts.

The pupils wrote $1/5 \times 3 = 3/5$.

"Multiply it by five"; and the teacher held up the five parts.

The pupils wrote $1/5 \times 5 = 5/5$.

"Who will be the first to change that answer to a better form?"

Each pupil was eager to be first. One boy erased his answer and wrote $2/2$. Lillian erased hers, and wrote $1/5 \times 5 = 1$.

"How many think that Lillian's is correct?"

Up went every hand.

"Now, five more, without looking at the card."

The teacher dictated:

$$\begin{array}{ll} 1/5 \times 10 = & 1/5 \times 20 = \\ 1/5 \times 15 = & 1/5 \times 40 = \\ 1/5 \times 100 = & \end{array}$$

Every pupil in Group II. wrote the correct answers.

"Erase 10, 15, 20, 40 and 100."

The exercises then read:

$$\begin{array}{ll} 1/5 \times \quad = 2 & 1/5 \times \quad = 4 \\ 1/5 \times \quad = 3 & 1/5 \times \quad = 8 \\ & 1/5 \times \quad = 20 \end{array}$$

"Now replace the missing numbers."

The numbers were very quickly replaced, probably by the use of the memory mostly.

"Try this one: $1/5$ multiplied by some number equals 13."

The pupils wrote $1/5 \times \quad = 13$.

Then there was eager thinking. Harry was the first to write 65.

"How many think Harry's answer is correct?"

Some of the pupils were not quite sure; but the teacher did not take time to have the matter demonstrated.

Group III. went to the board.

"Now, everybody be wide awake; some hard questions are coming."

The teacher dictated:

$$\begin{array}{ll} 1/5 \times 11 = \text{---} & 1/5 \times 51 = \text{---} \\ 1/5 \times 13 = \text{---} & 1/5 \times 81 = \text{---} \\ 1/5 \times 26 = \text{---} & 1/5 \times 264 = \text{---} \end{array}$$

Only one pupil in Group III. failed to do every example accurately and rapidly.

"One-fifth multiplied by some number equals 22 and three-fifths."

The pupils wrote $1/5 \times \quad = 22 \frac{3}{5}$.

Not one pupil in the entire class could arrive at the correct number.

"Well, our time is up; we'll think about that later."

Luckily it was just recess time, for it might have been difficult to draw the attention of the class to another lesson—so eager were they to think of the required number.

The superintendent was visiting the school. He asked the pupils how many toes a dog has, and what is the difference between a cow's foot and a horse's foot. "Why, I am afraid," said he, "that you will grow up in ignorance of the common things in life."

At recess the teacher heard Nellie saying to a group of little ones: "You must not grow up in ignorance of the common things. "Now," said she, "I want every last one of you to tell me how many feathers has a hen!"

Diary of the War

(All the events of the war previous to April, 1916, are given in this form in the book recently published by The School. For particulars see *Notes and News* in this issue.)

(Continued from the September number.)

JUNE, 1916.

- June 1. Heavy Austrian attack against the Italian left centre from Monte Pasubio to south of Arsiero fails to make substantial progress. At Verdun the Germans penetrate the French first line between Douamont and Vaux Pond.
- June 2. Lord Kitchener receives a deputation of members of the House of Commons and answers their questions. French retake 100 yards of ground lost south of Caurettes Wood. They lose ground, however, in Caillette Wood, south of Vaux Pond, and at Damloup. In a great attack on Fort Vaux the Germans break into the Fosse north of the fort but are elsewhere repulsed. *Canadian forces are forced to retreat on a 3,000 yard front to a depth of 700 yards in the direction of Zillebeke between Hooge and the Ypres-Roulers railway.*
- June 3. *Canadian counter-attack at Ypres retakes most of the lost ground near Zillebeke.* General Mercer killed and General Williams reported missing. German attempt on Fort Vaux repulsed. News published of the great naval battle of Horns Reef on May 31. Allies declare martial law in Salonika and occupy the Government Bureaux.
- June 4. *Russians begin a great offensive.* General Brusiloff's four armies advance all along the line from the Pripet Marshes to the Roumanian Frontier and take 13,000 prisoners. French still resist German attacks against Fort Vaux.
- June 5. *Lord Kitchener and a military and financial mission lost in H.M.S. Hampshire,* which strikes a mine near the Orkneys while on the way to Russia; 12 survivors only. Russian offensive still proceeding; another 12,000 prisoners. Italians counter-attack on Monte Cengio and repulse the Austrian attacks on Asiago plateau. Germans attack between Forts Vaux and Damloup.
- June 6. *Russians capture Lutsk* from the Austrians and cross the Rivers Ikwa and Styr; 15,000 prisoners captured. *Fall of Fort Vaux.* Germans gain a little ground near Hooge. Death of Yuan Shih-kai. Pacific blockade of Greece.
- June 7. Russians take another 12,000 prisoners making to date 52,000 prisoners and 77 guns since the beginning of the offensive. Austrian attacks south and south-west of Asiago defeated.
- June 8. Germans admit the loss of the battle-cruiser Lützow and light-cruiser Rostock in the Battle of Horns Reef. General Brusiloff crosses the Strypa and takes 13,000 more prisoners. German attacks east and west of Thiaumont Farm repulsed. General Smuts advances in East Africa, one force reaching Marzinde and another Bismarckburg. British patrol chases German destroyers back to Zeebrugge. British artillery destroys the railway station at Salome, east of La Bassée.
- June 9. Allied War Council meets in London. German attacks on Hill 304 repulsed. Russians capture 5,000 more prisoners. Mombo, six miles south of Wilhelmstal, German East Africa, occupied by British troops.

- June 10. Russian drive towards Czernowitz successful; 18,000 prisoners taken. Fall of Dubno. Turks defeated in Caucasus. Italian Cabinet resigns Ukalamo, German East Africa, occupied by the British troops.
- June 11. Russian offensive progresses towards Czernowitz; 7,000 more prisoners taken. The Austrian centre around Tarnopol remains firm. Germans violently bombard British positions near Ypres. Germans attacks west of Vaux and at Thiaumont Farm repulsed. A German raid near Perthes, Champagne, partially successful.
- June 12. Russians occupy Terchin, west of Lutsk, and dislodge the Germans from the Styry; 1,000 more prisoners. Germans bombard the inner forts at Verdun and penetrate the French line east of Hill 321. Italian offensive in the Lagarina Valley and on the Posina-Astico front. Ulster Unionist Council accepts Mr. Lloyd-George's Home Rule proposals. A demonstration against the Allied Powers in Athens.
- June 13. Russians attack on the German front north of Baranovitchi. Continued progress made in Bukowina; 6,000 prisoners. *Canadian troops capture nearly a mile of German trenches near Zillebeke.* Russian flotilla sinks two small German torpedo-boats and an auxiliary cruiser in the Baltic. Sir Percy Sykes reported to have entered Kerman, Southern Persia, with a British column. British airmen attack the camps and aerodrome at El Arish and Bir Mazar. General Smuts occupies Wilhelmstal. The King visits the Fleet.
- June 14. *Economic Conference of Allies opens in Paris.* Russians attack in Lutsk salient at Lokatchy and Zatursky. Italians capture Austrian lines east of Montfalcone.
- June 15. Russians attack Austrian centre at Buszac; 14,000 prisoners taken. French capture 1,000 yards of trenches on the southern slope of Mort Homme. British occupy the island of Ukererve, on Lake Victoria, and Korogwe, German East Africa. Austrian attack on Asiago plateau repulsed. New Italian Ministry formed under Signor Boselli with Baron Sonnino as Foreign Minister. Allies tighten blockade on Greece.
- June 16. Admiralty publish an account of the loss of the Hampshire. H.M. destroyer Eden sunk in collision in the Channel. German attack west of Hill 304 repulsed. Russians cross the Stokhod and occupy the village of Svidniki.
- June 17. *Fall of Czernowitz.* Russian cavalry enter Radziviloff, 12 miles north-east of Brody. German attack near Mort Homme, and in the region of Thiaumont and Hill 320 repulsed. Government announced to have appointed a committee to inquire into the increase in the price of food.
- June 18. Death of General von Moltke. Further Russian success near Radziviloff. German attack north of Hill 321 repulsed.
- June 19. Successful raid by British aviators on the enemy aerodrome south of El Arish. Russians continue their drive west of Czernowitz and force Austrians to retreat in disorder. Austrian centre on the Strypa still firm.
- June 20. *Arab tribes occupy Mecca, Jeddah, and Taif and proclaim Arab independence of Turkey.* Heavy fighting continues before Kovel. Hindenburg's forces penetrate the Russian trenches at Smorgon, but are turned out again.
- June 21. *Allies demand demobilisation of Greek army,* a new government, fresh elections, and dismissal of the anti-Entente police officials; demands accepted. Skouloudis Ministry resigns and M. Zaimis forms a new one. Russian advance in Bukowina continues; Radantz, 30 miles south of Czernowitz occupied. Germans attack at Mort Homme and Fort Vaux. They penetrate some advanced French positions between Fumin and Chenios woods.

- June 22. Russians reach the Carpathians. French recover part of ground lost between Fumin and Chenois woods; Germans fail at Hill 321. Germans seize some British trenches on a narrow front near Givenchy. Bulgarians cross the Mesta; Greeks evacuate Fort Nea Petra.
- June 23. Ulster Nationalists accept Mr. Lloyd-George's exclusion proposals. *Germans capture French trenches at the Thiaumont works, Hills 320 and 321, and occupy the village of Fleury.* Germans attack in Champagne. Russians occupy Kimpolung and Kutu. German submarine sinks a French destroyer and an Italian auxiliary cruiser in the Straits of Otranto.
- June 24. French retake trenches at Thiaumont and part of Fleury village. British artillery begins bombardment along the whole front. Germans defeated on the Lukiguri River, German East Africa. Italians resume offensive in Trentino.
- June 25. *Great Italian Advance.* Asiago, Priafora, and Cengio Mountains retaken. British bombard Lens. French retake trenches at Thiaumont. German attacks at Fleury repulsed.
- June 26. British raid German trenches at ten points between La Bassée Canal and the Somme. Austrians retreat in Trentino. Fierce fighting before Kovel.
- June 27. Germans gain a success before Kovel. Austrians retreat beyond Arsiero and Posina.
- June 28. *Austrians defeated on 25 mile front east of Kolomea* by Russian forces, under General Lechitsky; 10,000 prisoners taken. French make slight progress north of Hill 321 and repulse German counter-attacks.
- June 29. Sir Roger Casement sentenced to be hanged. British artillery very active.
- June 30. British artillery still very active; numerous trench raids undertaken.

SON KNEW THE REASON.

"Papa," said the hopeful youth, "can you tell me what is natural philosophy?"

"Of course I can," said papa, proud and relieved to find that there was at last something he could tell his offspring. "Natural philosophy is the science of cause and reason. Now, for instance, you see the steam coming out of the spout of the kettle, but you don't know why or for what reason it does so, and——"

"Oh, but I do, papa," chirped the hope of the household. "The reason the steam comes out of the kettle is so that mamma may open your letters without you knowing it."

In the baby class of one of the schools in this city two little boys had been talking all the time. At last the teacher's patience was worn out. "You two boys at the back of the class will write out your names a hundred times," she exclaimed.

One boy started his task determinedly, but the other began to lament loudly. His teacher asked him what was the matter.

"Please, sir," said the boy, "it isn't fair. His name's John Dodd and mine's Percival Christopher Randolph Hepplewaithe."

WOULDN'T HOLD HIM.

By his father's stern command, Jackie was forbidden to stay behind in the playground after school hours. He must come straight home, etc., etc. But Jackie forgot one day, and arrived home very late, very dirty, and very tired.

"Look here," said his father angrily, "didn't you promise me that you wouldn't stay out and play games?"

"Yes, father," was the meek reply.

"And didn't I promise to punish you if you did stay?"

"Yes, father," said Jackie, still more meekly, "but as I didn't keep my promise, I won't hold you to yours."

Development of the Number Faculty

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WHEN shall we begin formal number work?

This is a much disputed question and cannot be decided at random or by those who are not in constant touch with little children.

It is necessary to *live* with, and study the development of the minds of little children before any opinion can be formed. Conclusions cannot be drawn from individual cases. The study must embrace many children and cover many years, and the average of these results must be taken. In studying the development of the minds of little children we must note the order in which the faculties develop.

Observation begins at a very early stage in the child's life. As a baby he observes the objects surrounding him. By the time he has reached school age, he has his faculties of observation of plants and animals of wild and cultivated fruits; of flowers in the woods and flowers in the garden, of nuts from the forests, of clouds that float and rivers that flow, of hills and valleys, of minerals and forms of crystallization in ice and snow, of birds and insects and reptiles.

His imagination begins to develop before the school age. Pictures, stories, conversations and travel help him to create imaginary scenes and he reproduces these scenes according to the vividness of the impression made on his mind.

A three-year-old child saw a splendid picture of a storm at sea. Some time after when sailing his boat in the bath tub, he reproduced the storm very well indeed. This was done without any suggestion from any one.

Most children learn to recite nursery rhymes at a very early age. Memory develops quite early and is very retentive at this stage.

Why not continue a child's development along *natural lines* after he reaches school age?

Continue the development of his observation by presenting him with things worth while. Call his attention to something he has not observed in plant or animal, insect or bird, mineral or fruit or flower. Cultivate his imagination by means of stories and myths which will raise his ideals. Let him dramatize the scenes of the stories.

Cultivate his memory by giving him beautiful gems of poetry and prose, making the poet's thought his thought, and the poet's attitude his attitude, toward every flower, beast or bird.

His number concepts were developed somewhat before school age. He knew the relative values of two pieces of apple. He could discriminate between a long and a short stick of candy or a big or a little cake. He knew how many marbles he could get for a cent and how many buns the baker gave him for a dozen.

Why not *continue his number experiences* along *natural lines*?

The reading lesson appeals to the child, because with his inward eye he feels and sees something. He takes an interest in the thing described.

The story appeals to the child because it exercises his imaginative powers.

Writing and manual work appeal to him because they call his muscles into play.

Physical exercises and games appeal to him because they give vent to his nervous energy. Do the *formal number lessons* appeal to the child in *equal* proportion?

By giving formal number work too soon, we are calling into play the faculty of *reason* which does not develop in the child very early.

The old jingle:

"Thirty days has September,
April, June and November,
All the rest have thirty-one;
Leap year coming once in four,
February then has one day more."

appeals to the *ear* and may be readily memorized, but it does not call into play the faculty of reason.

Nine and *eight* are *seventeen*, therefore *thirty-nine* and *eight* must be *forty-seven*, does require more reasoning than many six-year-old children are capable of exercising. It is possible to fix these endings by memory work, but is it wise at this stage in the child's life?

A seven-year-old child *may* memorize the multiplication table as did the little girl who, unable to remember six times nine, at last followed the advice of her sister and named her doll "Fifty-four". "It grieved her soul to call such a perfectly lovely doll such a perfectly horrid name", but she was satisfied that she would always remember sixty-times nine. Morning came, her teacher asked for the result of six times nine. She thought of her *doll* and answered "Mary Ann".

Jean Ingelow gives us another instance. The "seven times" table seemed to have been worrying her. She repeated the table *over and over* while all the time her mind was out of doors among the "clover and the bees, the marsh mary-buds, the Columbine and the linnet's nest. She was wondering about the different phases of the moon, the cause of dew and rain". All this time her mind was following a natural bent of development and was being forced aside into a line of memory and reason in advance of the physical.

It is altogether likely that Jean Ingelow had all the necessary number facts in her mind at the proper time and probably would have acquired them just as rapidly at the proper time.

Care should be taken that memorization does not begin too soon. Reciting in unison or using the same numbers day after day will *fix the numbers* in the child's *mind* by *imitation of sound*.

In this way he will become dependent upon his memory and if this fail him he will have no means of finding out for himself.

This dependence upon memory reminds me of the boy who was sent by his mother to the grocery store. He repeated after her the list of groceries:

A pound of tea at one and three,
A pot of raspberry jam,
Two new laid eggs,
A dozen pegs,
And a pound of rashers of ham."

On the way to the store he stumbled and fell. The shock of the fall caused a sort of "fruit-basket game" in his brain. When he reached the grocery his list appeared like this:

"A pot of tea at one and three,
A pound of raspberry ham, etc."

These examples are not more ridiculous than some of the work in number which is given to immature minds and expected to be remembered. What wonder that the results in higher grades are poor when the tiny beginners are required to repeat, "parrot-like", the results of such problems as: "one half of seven", "eleven less three", "twenty minus eight".

In this I am certainly not "practising what I preach". But the longer I teach, the stronger becomes my conviction that *formal number work* should not be taken until the child can *read fluently*. I have found that the number faculty develops much more rapidly in the average child after he can read than before. There are exceptions, but these are usually in cases where the *number cells* are *inherited*.

The age at which the number faculty develops in the child varies much. I have in mind two little sisters of six and seven years respectively. The six-year-old combines and separates numbers rapidly. The seven-year-old girl is lost in the simplest combinations. Early development along this line does not prove later brilliancy. In fact it is often the reverse. The slower moving mind often retains more of the earlier work.

It is *not a crime* for the seven-year-old child to forget six times nine, or even to call it "Mary Ann" once in a life time.

It would not do to allow each primary teacher to decide how much number work should be taught, but let the scheme follow the *natural development* before the school age.

Let the child measure, compare and discriminate. Teach him the value of articles and how they are sold. Teach him something in number which may be applied to home life.

If John carries home the laundry work for his mother, show him how to find what he should be paid for it at so much an article.

Can he tell how much he should pay for half a pound of tea at thirty cents a pound? Can he measure a piece of flannel?

We do not begin formal grammar in the first grades, but we *do* continue the development of language which the child learned before coming to school.

In the same way we should not teach formal number work too early, but we should systematically, persistently and rationally, lead the pupil to add to his little number experiences gained before coming to school—measuring, comparing, grouping and judging.

Yes, we should teach number work from the first day of the first year in school. Teach it rationally so that all the child's powers will be employed—his muscles in cutting, his hands with pencil or brush or stick-laying, using crayon or on the black-board, or modelling clay into form; his judgment in discriminating as to *size* and *form* as well as *how many*.

A child may talk and write, or draw or whittle or weave or model, or build or march, or sing and all the while add to his number experiences.

The true education develops the whole child, gives him mastery over himself, makes him able to do and at the same time lays a *broad foundation* for number.

Trying to attain to a too high standard of accuracy and rapidity in the lower grades before the age when the number faculty has begun to develop is like—

"Dropping buckets into *empty wells*,
And growing *old*, in drawing *nothing up*."

Book Reviews

An Elementary Textbook of Psychology, by W. H. Spikes. Blackie & Son, London, 1916. Harold Copp, Toronto. pp. 173. Price 2/6 net. It is beyond the power of the reviewer to see why this book should have been put on the market. As an organised set of lecture notes for the author's own students it would perhaps have passed muster. But it is not original, or stimulating, or even up-to-date. The psychology it deals with is the now largely discredited psychology of Herbart. What, for example, is apperception but a term descriptive of the whole learning process? A much closer analysis is needed. And even the well-known five formal steps do not "represent the psychological order which must be followed by all formal instruction"; and one can deny "their psychological soundness". The mind does not wait for the step of formulation before making generalisations. As soon as a new fact is presented in the presentation stage the mind jumps to a conclusion. The new facts simply modify or confirm the hasty conclusions which we call the hypotheses. There is a continuous alternation of induction and deduction—two opposite but absolutely inseparable mind-processes. The author is apparently unaware of the newer experimental work in psychology. At least all his sources are secondary sources.

P. S.

Sex Differences in Handwriting

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WE are all of us more or less familiar with the fact that the handwriting of an adult exhibits sex differences—it is either masculine or feminine in character. Is this masculinity or femininity an essential trait of handwriting? Are the sex differences so great that the evidence of a professional graphologist ought to be accepted without question in a court of law? Are sex differences manifested in childhood or do they develop with age? Do men never write a feminine and woman a masculine hand? Will sex differences be less in evidence where children are taught under a uniform system, as, for example, in Ontario where this is practically the case, than in places where they are taught in varying ways as in the United States of America? These are some of the questions which might be asked in connection with the problem of handwriting.

Before mentioning a minor experiment carried on by students in the Faculty of Education of the University of Toronto, it might be well to summarise some of the results of previous experimenters.

Meumann* distinguishes three types of handwriting: (1) children's; (2) masculine; and (3) feminine. Children's writing tends to be characterless. The pressure of the pen throughout a word seems to be equally distributed, owing no doubt to the fact that children write by letter units rather than by word units. Sex differences are not readily recognisable in children's handwriting. The masculine type is distinguished by a greater firmness and also by a greater variability or non-conformity to type. The words are written in such a way that the pressures exerted are rhythmical. The maximum pressure is usually exerted either at the beginning or at the end of a word and it increases with the speed of writing. The feminine type is marked by its conventionality, and although men are superior to women in motor ability,† yet, strange to say, they write more slowly. As the speed of women's handwriting increases the pressure lessens. Women exhibit several maxima in a word and are more prone to stop in the middle. The rhythmical pressure effect seems to be absent from the handwriting of women.

* Meumann: *Vorlesungen zur Einführung in die Experimentelle Pädagogik und ihre psychologischen Grundlagen*, p. 301.

† Thompson: *Psychological norms in men and women*.

Bryan: *On the Development of Voluntary Motor Ability: American Journal of Psychology*, pp. 125-204.

Binet* endeavoured to find out how accurately sex could be judged in handwriting. Taking 180 envelopes (89 written by women and 91 by men) addressed to various members of his family, he submitted them, after removing all marks which might help in their identification, to ten ordinary, non-expert people and two professional graphologists. Had there been no sex differences in handwriting discoverable, he would have obtained 50% of correct and 50% of incorrect judgments. Instead of this he found the following percentages correctly determined by the non-expert: 65.9, 66.4, 67, 68, 69.3, 72.9, 73, 73, 73. The better of the professional graphologists obtained 78.8% correct.

June Downey† in her research used Binet's method. She submitted 200 envelopes, 100 addressed by men and 100 by women, to a number of persons unacquainted with graphology in its professional aspects. The percentage results of correct judgments were as follows: 60, 60, 61.5, 64, 66, 66.5, 68, 68.5, 70, 70.5, 71.4, 71.5, 77.5. It will thus be seen that the best of her results was not much inferior to that of the professional graphologist in Binet's experiment. Downey also found that inverted judgments, that is, where a man writer was judged as a woman or vice versa, were more frequently made by women. Conventionality was found to be the mark of a woman's handwriting, but this distinguishing quality tended to disappear firstly with age, and secondly, with a large amount of practice as is obtained, for example, by women clerks and journalists. She also found that if only those cases were taken where the experimenters felt a high degree of confidence in their judgments the percentage of correctness was greatly increased.

During the past year I have had an opportunity of testing whether a uniform method of instruction in handwriting tends to eliminate sex differences. To all intents and purposes the students in the Faculty of Education of the University of Toronto have been taught handwriting in a uniform manner, since the methods of teaching employed throughout the Province from which they come, are uniform. The material used was the whole of the examination scripts written under pseudonyms by the students in a recent university examination. Ten of the students, five men and five women, volunteered to give judgments upon the 267 samples of handwriting. Of these samples, 180 were written by women, and 87 by men. The students were told to record their naïve judgments as to sex and not to include in their reports any cases the pseudonyms or handwriting of which they happened by chance to know. That is, each of the experimenters had some definite ideas of what he or she meant by masculine or feminine handwriting and these were intuitively used in making the decisions. The results are given in the two tables below:

*Binet: *Les revelations de l'écriture d'après un contrôle scientifique.*

†Downey: *Judgments of Sex in Handwriting*; Psychology Review, XVII, 1910, pp 205-216.

MEN AS JUDGES.

Observer.	Total judged.	Total correct.	Per cent correct.	No. of same sex reported incorrectly.	No. of opposite sex reported incorrectly.
R. G. V.	262	157	59.2	60	45
R. F. T.	264	162	61.4	32	70
J. M. H.	259	162	62.5	19	78
D. J. S.	258	167	64.7	49	42
H. B. K.	263	173	65.4	31	59
Totals.....	1306	821	62.9	191	294

WOMEN AS JUDGES.

Observer.	Total judged.	Total correct.	Per cent correct.	No. of same sex reported incorrectly.	No. of opposite sex reported incorrectly.
K. D. C.	264	171	64.8	67	26
J. M. G.	263	191	72.6	25	47
G. M. L.	265	195	73.6	47	23
J. B.	262	193	73.7	38	31
G. E. H.	259	191	73.7	31	36
Totals.....	1313	941	71.7	208	163

The outstanding feature in the results, which differ in this respect from those of Downey, is that the women judge more frequently correct than do the men. Is this because they distinguish the writing of their own more easily than that of the opposite sex? And does the same argument hold good for the men? If so, the greater proportion of feminine scripts, 180 to 87, will tell in the women's favour. An examination of the results shows that this is not the case. The handwriting of men presented greater difficulties both to the men and the women. The actual percentages of inverted judgments were:

Men judged men's handwriting incorrectly 45.4% of times.

Men judged women's handwriting incorrectly 33.4% of times.

Women judged men's handwriting incorrectly 38.8% of times.

Women judged women's handwriting incorrectly 23.7% of times.

The total result of correct judgments (67.2) is slightly better than Downey's (66.1) and slightly worse than Binet's (69.7). According to Downey, the maximal amount of masculinity in women's writing appears late in life. As all scripts used in this investigation were written by students ranging from 19 to 25 years of age or thereabouts, results should naturally have been below those of previous experimenters. Again, one would naturally expect that uniformity of methods of teaching would have prevented masculine and feminine characteristics from appearing.

Such a result, however, is not obtained. Individuality is as strongly marked in Ontario handwriting as in that of France or the United States.

The range of correctness in individual judgment of masculinity or femininity was very great. Some of the samples were incorrectly judged by all, others by none, and all degrees of correctness and incorrectness were found between these extremes. Nor were the most masculine invariably written by a man; but often by a woman. And similarly for femininity.

From the results we may conclude (1) that masculinity and femininity are essential traits of adult handwriting; (2) that the judgments are not sufficiently frequently unanimous for any person to be able to say with certainty, this sample is the handwriting of a man, that of a woman; (3) that the handwriting of some women is so decidedly masculine in its characteristics that it is invariably judged as a man's both by men and women; (4) that these sex differences emerge during adolescence no matter how strict and uniform the teaching of handwriting has previously been. Uniformity of product as an aim in the teaching of writing is thus seen to be futile. Individual and sex differences make their appearance as soon as the characterless features of childhood's writing pass away with age.

Book Reviews

The Key of Jack Canuck's Treasure-House, The Making of Canada's Flag, The War on the Western Front, by Edith Lelean (Mrs. W. E. Groves). Price 25 cents each. Wm. Briggs, Toronto. What teacher has not looked (often in vain) for a nice little play for a school entertainment! Here are three of them (a fourth is in the press) that appear to be just what teachers have been asking for. The first deals with Canada's resources; the costumes required are not too elaborate for the ordinary school, the music is "catchy", the plot and the dialogue are very suitable for public or high school children. The title of the second is self-explanatory; the flag is made from the three crosses: Canada, Britannia, Laura Secord, are some of the *dramatis personæ*. The third requires so little in the way of special costumes and stage-setting that it may be used in any school, no matter how limited the available resources in these respects. Each of the three plays is brimful of Canadian patriotism; each supplies material for an evening's entertainment which will make the strongest kind of appeal to pupils and parents alike. They will be not only an aid to teachers who wish to hold an entertainment, but an incentive to others to arrange such a function.

Country Life Reader, by O. J. Stevenson, M.A., D.Pæd., Professor of English in the Ontario Agricultural College, Guelph. Price 75 cents. 418 pages. George J. McLeod, Ltd., Toronto. Readers of THE SCHOOL have learned to know and appreciate Professor Stevenson's literary work. In the volume under review he furnishes a series of interesting and readable essays which the teacher of a rural school will value so highly that half a dozen copies will be requisitioned for the library. The material has been selected with two objects in view; first, to create an interest in the farm so that the pupil may be led to observe and study for himself; second, to lead young people to see the value of training and preparation for farming as a profession. Teachers know that (alas!) all "lessons" do not appeal to children but that almost all well-told stories do; and that if the former can be disguised as the latter, the result is invariable *interest*. This is what Professor Stevenson has done in his reader; each essay is really a charming little story which will keep the child absorbed from start to finish. The book should be a boon as "busy work" for third or fourth book classes in rural schools.

The Eastern Student as the Western Teacher

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IN the days when I was an undergraduate, every May there was a regular exodus of my fellow-students to the West. A few of the men were bound for "mission-fields", but the majority, both men and women, were hurrying out to take summer schools in the Prairie Provinces. The students of the colleges which closed earliest usually secured the best positions,—those in the older settlements and nearer the railways; for while many do not like to be actually in one of the very small towns, it is generally conceded as much more desirable to be within easy reach of one, if only for the mail. Individual tastes differ widely as to the nature of the country to be preferred, but there is wide variety from which to choose. Some revel in the sensation of free, untrammelled space that the flat prairie land always gives—miles of wheat, with only an occasional telephone pole to break the skyline. The brush country has its charms, especially for one accustomed to trees. Here, logging and trapping muskrats in the numerous sloughs, are often more profitable than farming. For the person with an eye to pictorial effect, the hills are without rival. Steep and rugged, they have often bluffs on the sheltered side and are covered for the most part with grass that makes them among the best ranching districts in the country. Just exploring the coulees is an unending source of delight; some are filled with brush, with soft little rabbits scurrying around, or drumming partridge; some are glorious berry-patches; while still others are clay and gravel, with a little spring in the hillside, a bed of bright-coloured cactus, and possibly the yawning mouth of a coal-mine near by. But in this materialistic age, there are matters of even more importance than scenery—so declareth the practical farmer in me. The country that I would choose is the rolling prairie, with lakes and brush, and yet enough open land to grow the best wheat in the West. There is a satisfaction in knowing that all your neighbours are happy and prosperous, that their children are well fed and warmly clothed, that no mere view can ever give.

In starting out on the long trip to the West, many women students at least have little definite knowledge and many misgivings as to what fate is in store for them on this venture into an unknown world. The journey itself need cause no worry, for all along the route both the officials and the laity are seemingly untiring in their patience and unremitting in their courtesy. Solitary and unattended on all my travels in the West, often on very new branch lines, I have invariably met with politeness and consideration that left nothing to be desired. The hotels too, are now usually quite comfortable, although I will admit that several years ago some of them were—well, rather crude.

My misgivings, on my first expedition, were caused rather by my inexperience. I had always had considerable to do with children—that is, English-speaking children—and thought many of them worldly-wise, disrespectful, and not always of attractive manners. But the spirit of foreign children seems to be altogether different. They may be untrained and spoiled generally at home—they almost invariably are—but it is always impressed on them that their teacher is a great and wise personage from a far land, come specially to teach them, and their chief end in life is to make the most of this advantage. The average child from the "Old Country" is always respectful and amenable to authority, and altogether too willing to take anything his teacher says on trust. For a beginner, or one who has not been to Normal and learned all the "tricks of the trade", this type is quite the best, it seems to me. Usually the trustees

are willing to give any assistance in their power. Then too, the inspectors are always available and most kind in offering helpful suggestions, as well as patient with the Tenderfoot, or the one who knows only eastern methods.

Only one feature of western life really did not commend itself to me—the mosquitoes. They are the one flaw in the Prairie Provinces that I have so far discovered. Although not characteristic of southern Alberta—the gentle zephyrs from the Crow's Nest make life too strenuous even for mosquitoes—they are a force to be reckoned with in the north. Closely-woven clothing, suitably made, helps considerably, and gloves and veils make life bearable. However, I was unfeignedly thankful when the first heavy frost came, and September and October are perfect!

Perhaps the most insistent of all a teacher's problems is the place where she is to board. While sod houses and "dug-outs" are becoming fewer, even yet the country is so new that the shacks are barely large enough to contain the family, and guests are out of the question. A special providence seems to have watched over my wanderings, for I have always stayed in houses of at least four rooms, and had one all to myself, clean and comfortable. So often, too, it seems as if all the bachelors were grouped around the school, with the families on the outskirts of the district. I always have ridden horseback when possible, but one summer I had to walk four miles each way—and came home in the fall in glowing health. Usually, too, I have been fortunate in not having to board with the families of any of my pupils. It was such a relief not to have to be "teacher" over the week-end, and saved all possible cause for accusations of favoritism in the school. The more, too, is a place to stay a problem—for a woman—the more "foreign" a settlement is, so to speak. I have been with Norwegians so much that I feel as if they were my own people. But in a settlement from central or south-eastern Europe—Galicians, Ruthenians, for instance—the only solution seems to be "baching" as a rule, and either a small shack is placed in one corner of the school-yard for the teacher, or additional rooms are built on the school. Independent Doukhobors are interesting in moderation, but several times I have called on Galician ladies and—well, I did not stay to tea.

But really, if you have never "bached", life still holds possibilities. I once tried it myself, from choice, not necessity, and the only alloy in my bliss was that the stove *would* get full of water every time it rained, and I had to keep an umbrella up over the bed. I doubt if I shall ever enjoy myself again as I did that summer. It surely develops many traits that might otherwise always have remained mere potentialities.

Those who are destined to teach in city schools need have no doubts or fears whatever. The buildings are large and comfortable, and, for the most part, more up-to-date than those of the eastern provinces. In some points the organisation and management differ from those of the older provinces, but the problems arising in a new country necessitate changes and adaptations.

However, the majority must be content to start on a lower rung in the ladder—the rural school. This, in an English-speaking community, will present few difficulties. The only real problems—those of a boarding-place and transportation to and fro—are rapidly being solved as the country becomes more settled. Generally speaking, rural schools are much alike in either east or west. Twenty is a fair size, but some range from forty to fifty, if the attendance is regular; hence the grading, school routine, will be easily established and run smoothly. If there are a large number of grades, it will be much more difficult to do justice to all the classes, especially if there are many small children, as these require so much individual attention.

In a school in a foreign settlement—to me by far the most interesting—the chief work is the teaching of English. If the children are of a wide range of nationalities, this is comparatively simple, as they are forced to adopt English as the common medium of expression. The difficulty is very apparent when all the children speak the same

language, and if the teacher does not happen to know this particular one, or to have the "gift of tongues", he may be at considerable disadvantage in the settlement. Especially with the smaller children is a great deal of impromptu dramatisation and pantomime often necessary, and by this concrete, objective method, it is not long before the child can make himself understood, at least, in English. For the finer shades of meaning, I have found a system somewhat resembling that of double translation very satisfactory in the upper grades. But it is one thing to teach the children English, and quite another to induce them to use it. Playing with them will establish informal relations, and at their ease they will try to talk more freely. Often in settlements there seems really very little need of English outside the school,—they have their own newspapers, their own services—and instead of co-operation there is rather, at times, hostility on the part of the parents to be overcome. Sometimes it is possible to visit their homes—although the women especially are very backward about using English—but usually this has to be overcome through the children themselves. The advantages of education *à l'anglaise* have to be set before them concretely. The work is slow at first, but wonderfully interesting, and the results usually very well worth while in the end.

Many students, I am sure, are very sorry that summer schools and "permits" are becoming fewer every year. Normal training is required, and also that schools be yearly ones. The severity of the weather makes it difficult to keep school open in the winter; in the north of the provinces, it is too cold; and in the south too windy. Only the larger children, whose assistance is needed at home in the warm weather, venture out. Even if they ride or drive, the horses require a certain amount of attention in very cold stables. The nearest approach to a solution would seem to be consolidated schools, and with proper conveyances, this should render attendance practicable for even the small children, except in the very worst storms.

Possibly some teachers, especially women, will complain of the loneliness of such a life. In view of the undisputed spirit of good-fellowship existing all through the West, one is tempted to wonder if the fault does not lie in themselves to a large extent. True, congenial companionship is not to be counted on with any certainty, although one can usually manage to find at least one kindred spirit, and many times will form lasting friendships. But surely the person who cannot be self-sufficient and content in the summer, at least, to amuse himself out in the most glorious country imaginable, is sadly lacking in resourcefulness and enterprise. There is always shooting with a rifle or shotgun; for, while the season for ducks and chickens does not open until the fall, is there not always the ubiquitous gopher? Even the most tender-hearted person soon ceases to have any qualms about shooting these little pests, and they seem specially designed as targets for the beginner, because of their habit of pausing and sitting up every few yards to reconnoitre. The supply of game appears to be inexhaustible all through the upper part of the provinces. There are many saddle-horses now, making riding always possible. In the ranch country, it is usually easy to find a broncho quiet enough for a woman to ride, and even farther north, horses are rapidly replacing oxen. Throughout the north of the provinces, lakes abound—real lakes, as well as sloughs; and while fishing is not to be counted on, there is swimming in the summer; and in the winter the wind keeps the ice sufficiently clear of snow to make skating good sport. By the shores of these lakes, especially if they are not strongly alkaline, the opportunities for nature study at first hand are unlimited, as the banks are filled with the holes of all kinds of interesting little creatures. To the amateur photographer, they would afford an endless variety of subjects for studies. Gardening, too, is a fascinating pursuit after one has spent a lifetime in the city. And in the unspoiled "virgin soil" the garden of even the amateur will grow, if the gophers will only leave it alone. It is a little trouble to start things early indoors, but once you have them in the garden, Nature does the rest. Chickens will occupy a great deal of spare time. I believe that

my garden and my chickens made more impression on the "natives" than my college training ever did—there is no way to win a man's respect for your prowess like beating him at his own game!

Until very recently, it was often necessary to find interests in the life around one, for, except the daily paper a week old, there was a sad dearth of reading matter. But in the inspectorate to which my last school belonged, there was an attempt being made to remedy this by establishing a library in the central town of the district, especially for the use of teachers, but open to others as well. I often wondered if perhaps this little enforced pause in the endless reading and conversation in which the present-day student indulges, were not a very good thing in giving him the opportunity to assimilate what he had read properly, to classify it and get it into some sort of correlation with the facts of his own existence—in short, to evolve his philosophy of life.

To me, just studying the people, their widely differing personalities and national characteristics, was in itself an endless source of delight. To the best of my belief, every country in Europe is represented in the Canadian West, at times by only a few scattered individuals, but often by whole settlements. In these settlements most of all do they cling to the old country customs a long time, and very interesting many of them are. Of course, if one does not happen to know their language, a medium of communication presents difficulties, as the women especially learn English very slowly. For one located in such a settlement, acquiring a working knowledge of the language is an excellent way of employing spare time. In this way I have learned a fair amount of Dano-Norwegian and have a reading knowledge of Swedish.

Possibly the time to see all the national customs and taste the national cookery to best advantage is Christmas. I recently spent Christmas in a Norwegian settlement, and long will I remember the quaint peasant customs, and the round of parties, dances, and masquerades that lasted almost continuously till Twelfth Night. It is second only to an actual trip to Europe.

In my estimation, judging the matter from a purely selfish view-point, a trip to the West and teaching for a time, at least, is as good a rounding off and finishing of one's education as it is possible to have, if only to broaden one's outlook and soften youthful intolerance. Whether the trip will be a success or not depends almost entirely with the individual. For the person who pines for things done as they were "at home" the Westerners have little respect, but for the one who is determined to win out, they have the true spirit of *camaraderie*. They certainly appreciate the 'sporting instinct,' the ability to adapt oneself readily to new surroundings, to take the ups-and-downs all in good part, and to make the interests of the people one's own. There is a great deal of sound sense in that old saw about doing in Rome as the Romans do. The eastern person who cannot do so will be sadly out of place and probably worry his new friends as well, and primarily he must put them at their ease, to be able to appreciate them properly. If I sometimes found my neighbours amusing, it was nothing when compared to what they found me! Unceasingly have I thanked the kind fate that gave me a very healthy sense of humour, even when the laugh was at my own expense—it is really a valuable asset. Ready adaptability is necessary before everything. The life is so different, so crude in many ways, yet so gloriously simple, free, and full of promise. And to a tired and nerve-racked student, it gives a new lease of life. Both in the actual teaching and in mingling with the people, considerable tact is necessary. It is never politic to show curiosity as to peoples' pasts—the West is the land of the future. Many of them very much resent being classed as foreigners—they are all "Old Country" people. The children, too, are often shy, sensitive little things, who have lived such isolated lives that they are as prone to take fright as any creature of the wild. In dealing with them it is not always the person of the most brilliant scholarship who best succeeds. It is rather the one who has tact, resourcefulness, ingenuity, insight, and an

unfailing fund of patience, who gains a hold over them. The children, especially little Scandinavians, are affectionate and yield best results from gentle handling. Both they and their elders have such bright, sunny dispositions, and such a profound respect for wise teachers from the East, that it is a pleasure to be among them. Many of them are very companionable too. The school system of Sweden is probably the best in the world, and all the Swedes who were educated in the Old Country are far from illiterate. Of their unvarying kindness to me, I cannot speak sufficiently highly. I am as much at home in the settlement as if they were really "Mine Own People." To the students who contemplate coming out to help in the training and guidance of the rising generation of a new but very promising part of the Dominion, if a kindly fate sends them among Norwegians, I can give the assurance that in all probability their paths will have fallen in very pleasant places indeed.

Book Reviews

Educational Measurements by Daniel Starch, New York. The Macmillan Company, 1916, pp. 202. Price \$1.25. In the introduction to this work the author states: "If there are any products or by-products of Education which are too subtle to be distinguished or judged as existing in greater or less amounts, or as having higher or lower quality, we may be suspicious of their actual existence. Any quality or ability of human nature that is detectable is also measurable. It remains only to discover more and more accurate means of viewpoint with respect to measurement in education. The new school of workers are not content to sit still and say that the best things in education are non-measurable. They say that the older school who hold this view still use marks as the determinants of promotion, elimination, retardation, honours, scholarships, graduation and the like. What they, the new school, want to do is to make marking more rational and tests more fair. In order to achieve the first result they discuss reliability of marks, distribution of marks, and limits of fineness in scales of measurement." Just how this is done is too elaborate to explain in a brief review, but it may be stated that the fundamental idea is that an average judgment of 100 experts is a more reliable judgment than that of a single individual. In the book under discussion the following topics are dealt with: the measurement of abilities in reading, writing, spelling, grammar, arithmetic, composition, drawing, Latin, German, French, and physics. We can heartily commend the work to all experimenters in education as an excellent collection of the scales already made and summary of work already done.

P. S.

Waldnovellen, edited by Professor A. E. Lang and *Le Voyage de Monsieur Perrichon*, edited by Professor Pelham Edgar. Price 15 cents each. The Macmillan Co., Toronto. These are particularly excellent texts. Both have been re-written and are very carefully annotated with introductions and vocabularies, and in addition are provided with exercises based on the text. This last feature should make these volumes especially valuable.

Canadian Poets, chosen and edited by John W. Garvin, B.A. Price \$2.00. McClelland, Goodchild & Stewart, Toronto. This is a very attractive volume of over 450 pages, which will be welcomed by Canadian teachers, especially those who teach literature. Mr. Garvin has given us a very fine collection of poems by what he considers the fifty leading poets of Canada since Confederation. The section devoted to each author begins with a picture of the poet, an estimate by some well known literary critic, and a short biographical and critical article by the editor. The period from Confederation to the end of the present war will undoubtedly be looked upon as an epoch in Canadian history, and it is eminently fitting that someone should collect for us what he considers the best poetry of the period. Mr. Garvin has special qualifications for the task. For many years his hobby has been Canadian poetry. Eleven years ago he published the collected poems of Isabella Valency Crawford. For years he has contributed articles on Canadian literature to Canadian magazines. Not least, in our view, he had the practical experience as teacher and inspector which would help to qualify him for choosing wisely for teachers and pupils. This volume should be in all our school libraries, and we believe that a large number of teachers will choose to buy it for themselves.

G. M. J.

How we spent our Noon Hour in a Country School

HAZEL WILLIS
R. R. No. 1, Hanover.

MANY teachers would, I know, be discouraged by the outside conditions of the school in which I taught. The building itself was old and located on the side of a very steep hill. The school yard for the most part slanted at an angle of about 20°; and although it may seem strange, a swale cut through the centre of the yard. Of course the pond of water was there for only a few days each spring but sufficient moisture remained to support the life of swale grass.

The prospects for school games in such a yard were very limited, and it was a problem to know how to amuse the pupils during the first trying spring days. Only one corner of the yard was sufficiently level to permit the pupils to play ball, and the boys claimed this corner. As far as I could gather they always had done so.

The school yard was bounded on three sides by woods and here the first spring flowers began to bloom. One day I saw several of the girls looking into the woods, and, in fact, some were stretched half-way through the fence trying to catch dog-tooth violets. I asked if they had ever gone into the woods. No! The other teachers would never allow them to go outside the school yard. Well, I said, we would see what we could do. Accordingly I wrote to the owner of the woods and asked permission to go into them. He replied that we might do so, as long as we did not leave any gates open. The next day a merry throng of girls raced away, after lunch, to explore the hitherto forbidden grounds.

My boarding house was two miles from the school; so I also had the noon hour to spend. Of course for this one day, at least, I was perfection to the pupils, and they very kindly insisted on my going along with them. Like all children, almost as soon as they were over the fence they began plucking flowers, and I soon had so many that I began to wonder what I would do when the next girl arrived with her bunch; for if I refused to take them her feelings would at once be hurt. Just at this point I noticed in my bunch a flower I had never seen before. As I had just one of the species, I was curious to learn where the pupils had found it.

Soon each girl was busy trying to find another specimen. When at last we found one we saw where it grew, the shape of the leaf, etc.; but we still lacked the name. Suddenly I remembered the wild-flower book. One of the pupils soon brought it from the school and the name was found. This was the beginning of our study of the wild flowers.

Every day found us in the bush, if the weather was fine. We now always took our wild-flower book with us, and nearly every day we found something new. Soon the boys forgot the baseball and joined us in our rambles. They were in a short time as interested as the girls, and tried their best to out-do them in finding specimens new to the most of the pupils. Not only the pupils in the higher classes learned the names of the commonest of the wild-flowers, but even the pupils in the primer could tell quite easily a half-dozen or so of the commonest specimens.

The Spring days soon passed but we still spent our noon hours in the woods. One day we went farther than usual and chanced upon an old pine clearing. Here we found a splendid wild strawberry patch, and I hardly know which we enjoyed the most, the finding of new things in nature or this patch of wild strawberries. But at any rate, the children the next Spring were again in the woods searching for their old friends.

I think the Spring noon hours were spent quite profitably, the pupils had exercise in running through the woods and at the same time gained a liking for nature study. Many who did not know one flower in the Spring now were able to pick out a great number, and they were eager to find the names of more.

We also learned about the habits of many other of "Mother Nature's Children" and I think the thoughts in Sylvester's poem, *The Picture*, explain the change in the pupils' minds towards Nature:

There's a pool in the ancient forest,
The painter poet said;
That is violet, blue, and emerald,
From the face of the sky o'er head.

So, far in the ancient forest
To the heart of the wood went I,
But saw no pool of emerald
No violet blue for sky.

There's a pool in the ancient forest,
Said the painter poet still,
That is violet, blue and emerald,
Near the breast of a rose green hill.

And the heart of the ancient forest,
The painter poet drew,
And painted a pool of emerald
That thrilled me thro' and thro'.

Then back to the ancient forest,
I went with a strange wild thrill.
And I found the pool of emerald,
Near the breast of the rose green hill.

We had, in our Spring walks, found many pools of emerald.

Book Reviews

Browning, Arnold and Tennyson, edited by J. C. Saul, M.A. Price 15 cents. The Macmillan Co., Toronto. This Matriculation text in English for 1916-17 contains introductions, notes, and bibliographies which should be very helpful to students of the subject. It is a neat little volume, well edited, well printed and well bound.

Caesar de Bello Gallico and Vergil Aeneid, Book II by E. W. Hagarty, M.A. Price 15 cents each. The Macmillan Co., Toronto. The introductions and notes in these texts are quite copious and very well written. Each contains a vocabulary. In the *Caesar*, there is an exercise for prose work on every chapter and each exercise is preceded by a word review which should be a very useful feature in class work. These are neat little volumes for class use.

Prophets, Priests and Kings; The War Lords; The Pillars of Society; by A. G. Gardiner. Price 35 cents each. J. M. Dent & Sons, Toronto. Probably there is nothing that is of more interest to the student of affairs than the personalities of outstanding men. These three books are three series of descriptions, biographies, and character-studies of the men and women who are influencing the events of our day. The last mentioned deals with thirty-seven persons. Every teacher knows how easy and how profitable it is to teach history through biography. These books will serve this purpose in connection with the present war and with current events in general. To the school library, the teacher, the pupil, the ordinary reader, they are indispensable.

Boswell's Life of Johnson. Selections edited with introduction and notes by Max J. Herzberg, Head of English Department, Central High School, Newark, N.J. Cloth. Illustrated with portraits. xxxiii+280 pages. 40 cents. D. C. Heath & Co., Boston, New York, Chicago. Many readers will welcome this volume, which contains the most interesting and significant parts of Boswell's *Life of Johnson*. The old Greeks had a problem that the half is greater than the whole, and it is certain that a volume of this sort is greater in interest and makes much less tax upon the reader's time and patience than the complete Boswell. Besides the pages from Boswell's *Life*, the editor has included twenty pages of exceptionally valuable extracts from Johnson's works, together with a collection of sayings and anecdotes of Dr. Johnson. The whole affords a ready means of making the acquaintance of one of the most interesting and impressive personalities in the literary history of the 18th century.

Geographical Nature Study

EDITH V. PHILLIPS
Normal Model School, Ottawa.

I. The City—OTTAWA.

(a) Size, gained from people, houses, stores, schools.

(b) Arrangements for convenience and safety—paved and lighted streets, police, fire department.

(c) Activities—manufacturing, exchange, transportation; with farming, lumbering, quarrying, which may be observed on account of close proximity to the city. These activities should receive no exhaustive treatment as to the technique of industry, but should aid the child to discover simple, direct relationships between the earth and life.

II. Visit the Experimental Farm to observe the caring for crops of hay, grains, fruits and vegetables; also the use of machinery, animals and buildings. The farm as a contributor to our homes is related to transportation and exchange for which best observations can be made by a visit to the city market. There the class should learn to recognize common vegetables, fruits, and flowers; should see our interdependence on a larger scale than in the home; and might have a little practice in exchange by purchasing something for class lessons or schoolroom decoration. These excursions can be appealed to constantly throughout the term for illustrations. Count that trip best which receives closest observation and incites the mind to exercise for the longest time.

III. Another interesting preparation for a systematic weather chart is familiarity with a thermometer. Have the class judge the temperature and verify by the use of a thermometer, preferably a large one used out of doors. A record may be expressed graphically on the black-board each day, and at the end of the month a comparison will lead to the simple generalization that the tendency is lower temperature—cooler weather.

IV. Class lessons on fruits and vegetables procured from the garden or market. First, study these with reference to the part they represent as directly useful to man. Later, emphasize the simple advantages of fine large specimens, of spherical shape, of bright colours, of taste when ripe, from the new point of use to the plant. Only the ingenious agencies and devices for the dissemination of seeds which are simple and where the locomotion can be observed by the class should be discussed in this grade. The silky sail of the milkweed, the elastic spring of the touch-me-not, and the clinging burdock are suitable. The pumpkin correlates with

other work for Hallowe'en. It may be studied as a "seed-box", and the seeds placed with the class collection.

The planting of bulbs will begin a new "continued story". Some should be placed in the ground, others in pots for winter observation of growth and blossom. Autumn colours should be observed in fields, trees, sky, flowers, charts of leaves and fruits. Watch the formation of cocoons from caterpillars kept in a wire-netting cage.

Book Reviews

Yiddish-English Lessons. By I. Edwin Goldwasser, District Superintendent of Schools, New York City, and Joseph Jablonower, Principal of Evening School, Young Men's Hebrew Association, Manhattan. Cloth. Illustrated. 248 pages. 72 cents. D. C. Heath & Co., Boston, New York, Chicago. This book is the outgrowth of successful experience in teaching English to those whose native tongue is Yiddish. The authors have taken into account the difficulties of idiom peculiar to speakers of Yiddish, and have provided lessons by which these difficulties may be surmounted.

The Purpose of Education, by St. George Lane Fox Pitt; Cambridge University Press, 1916. xviii+144 pp. Price 2/6 net. J. M. Dent & Sons, Toronto. This is a second edition of a book first published in 1913. It contains additional matter, chief of which is a chapter in which the author reviews his reviewers. Apparently the subtitle "an examination of the education problem in the light of recent psychological research" has confused Mr. Pitt's readers. They expected to learn of Thorndike, Meumann, Speaman, Myers and others and find no mention of any of them. What the author really does is to develop a new theory of complexes, which is not unlike the old Herbartian theory of apperception in a new dress. He does well, however, to emphasise the essential unity of mind and to show that trains of ideas are associated in a way which is largely determined by the emotional set of the mind at the time. But the purpose of education which deals with ideals is essentially a problem for philosophers, not for psychologists, and the failure to recognise this explains the main difficulty in the treatise. Nevertheless it is a stimulating book, and just because it wanders from the beaten path it should be read by all serious students of education. P. S.

Democracy and Education, an introduction to the Philosophy of Education, by John Dewey, New York. The Macmillan Co., 1916. xii+434 pp. Price \$1.40. The Macmillan Co., Toronto. One cannot speak too highly of this book. John Dewey is the greatest living thinker upon the deeper problems of education, and directly and indirectly has influenced educational thinking the world over more than any other man. The book before us represents nearly forty years of thought and practical experience in the educational field. It is a mature book. While apparently easy to read, it is no book for the dilettante in educational affairs. It will repay reading and re-reading and the most careful study. The reviewer has read it twice and although he has been a student of Dewey's writings for a decade or more, he feels that he has not nearly sounded him to the depths. He is also convinced that many so-called "Deweyites" know nothing about the teachings of their master. It sounds so easy to state that the "aim of education is to enable them (the pupils) to continue their education" (p. 117), but what a change would have to be made in our schools if teachers honestly tried to fulfil the aim. And when we tell the reader that Dewey makes a vigorous plea for allowing the child to develop his native powers in a natural way, that he deprecates the separation or dualism of mind and body in current educational thinking, and that he insists that the child learns by doing, how trite it all seems! But read the book, gentle reader, and see how little you know about phrases which have been your common stock-in-trade for a number of years. The book is excellently written and the illustrations are homely and striking. Dewey has a "juicy" mind. He spills over with ideas at every turn. Consequently the book can be unhesitatingly recommended as not only the best work on the philosophy of education, but also as the best book on education written in the past century. P. S.

Primary Studies in English and Number

ISABELLE RICHARDSON
Normal Model School, Toronto.

ENGLISH.

LESSON—GROUP II.

Section 1. *Literature.*

BIRD THOUGHTS.

I lived *first* in a little house,
And lived there very well;
I thought the world was small and round
And made of pale blue shell.

I lived *next* in a little nest,
Nor needed any other;
I thought the world was made of straw,
And brooded by my mother.

One day I fluttered from the nest,
To see what I could find.
I said: "The world is made of leaves—
I have been very blind."

At length I flew beyond the tree,
Quite fit for grown-up labours.
I don't know *how* the world is made,
And neither do my neighbours.

"Given your material, *how much can you see in it?* For on that depends how much you can make of it."—James Russell Lowell.

TEACHER'S PREPARATION.—(1) Study the poem until every possible iota of poetic beauty in matter, form or underlying thought has been grasped. (2) Determine upon the points that need elucidation. (3) Note the words or choice bits of poetic phrasing to be definitely added to the child's vocabulary. (4) What apperceiving ideas would the child need to appreciate the poem? What is the central truth? In this poem the central truth can better be implied than directly stated. Mary Laing says: "A teacher who understands the significance of such child questions as, 'If you go on and on as far as you can on the land what do you come to then?' 'If you go down and down what do you find at last?'"—the teacher who remembers his own efforts to construct an orderly framework for the world in which he lives will make this lesson a means of helping the child understand these questions and difficulties."

Preparing the Class for the Lesson.—(1) Intellectual and emotional preparation.—An introductory lesson must be taught to prepare for the settings of the poem. Lead the child to follow the "growing circles" of the young bird's life. At first the bird's life and experience is limited

to the egg. Pupils discover and state the size, shape and colour of this "little house". When the birdling begins to stir he finds himself enclosed by "pale blue shell". He pecks his way through to find himself in the nest. There he becomes conscious of his mother, of the nest, and of the little family within it. (Teach the terms "brood" and "hatch"). Tell of the mother's care of her young—how she warms, nourishes and protects them. Speak of the activities of the baby birds—how they learn to hop and move about just as our baby does at home.

Let pupils examine the inside of a nest and state discoveries the bird would make.

One day the young bird perches on the edge of the nest, flaps his wings rapidly as if about to fly (let pupils imitate the quick irregular motion) and finally makes a quick short flight outside the nest. His new world is a beautiful one. He finds himself among hundreds of leaves that dance merrily up and down and sing strange new songs. There are also other families and other homes.

Finally he goes forth into the "great, wide, wonderful, beautiful world", where his experiences are unlimited. He is now a "grown-up" bird and must do the work of other full-grown birds.

As he flies about in unlimited space he comes into contact with the other birds, the beasts and the flowers. He "learns their names and all their secrets"; but when he asks how the world is made, not one of them can tell him. Can you?

(2). Technical Preparation.—This involves instantaneous recognition of words, and drill on pronunciation, enunciation and articulation.

The meaning and use of new words must be taught. Determine the words and phrases that can profitably be taught in this preliminary lesson and those that should be taught in their natural association in the context.

STUDY OF THE POEM.—Much of the success in teaching a poem depends upon the appeal made to the children during the first hearing. For this reason the *teacher* should read or recite the poem. "Give the atmosphere, the dominant sentiment, the music of the whole masterpiece."

Now begin the special study of the various divisions. As the poem is a thoroughly logical selection the pupils' attention may be directed to the natural divisions. This may be done in a simple way by appealing to the child's love of riddles. A senior pupil is asked to read the lines that state the first riddle. Junior pupils may give the answer. Insist upon the complete answer—"the bird in the shell." For variety the teacher reads the second stanza (omitting the word "nest").

If taught to a senior class the stanzas may be read silently, the answer only being spoken aloud. Teach the term—*stanza*.

Next deal with poetic phrasing and beauty of thought. Let the pupils *discover* the beautiful *words* that the writer uses to express *ideas* already grasped by the pupils in the preliminary talk—*brooded, fluttered, fit for grown-up labours*. When beautiful expressions are discovered link them when possible with different aspects of Nature. Read “The Wind and the Leaves”, also “October’s Party.” Let the pupils tell why the word “fluttering” is used in these poems. Later, pupils are asked to use these words in sentences of their own in connection with nature and language work.

Call attention to the second line in each of the first two stanzas. Develop the beautiful underlying thoughts—adaptation to environment planned by the Creator; contentment of the bird; the growing beauty and freedom of each succeeding world.

Finally let the child find the parallel between his own life and that of the bird. At first he knew only his own home and family. His experience broadened when he reached the neighbourhood and school. Now he knows that there are many countries and peoples, and in his books he reads of beautiful worlds beyond.

Correlations.—This poem contains many word-pictures. It can therefore be reproduced in a number of ways—drawn, painted, represented by cuttings, modelled in plasticine, dramatized.

Section 2. *Nature Study.*

Through the study of the poem, *Bird Thoughts*, the pupils have grasped the life of the bird in its entirety. They will now be interested in any phase of bird life suitable for the month.

Helen Hunt Jackson’s poem “October” will furnish a basis for study on all other nature topics—plants, insects, leaves, “lovely wayside things,” and “October’s bright blue weather.”

Section 3. *Reading.*

Klapper says: “Intensive reading means material *chewed and digested*; extensive reading is only a process of *touch and go*.” The poem, “Bird Thoughts” has been used for intensive study. A strong apperceptive basis has been laid. The following poems from the *First Reader* may now be selected for extensive study. To senior classes they may be assigned as supplementary reading. If read in the following order continuity of thought is sustained: (1) The Egg in the Nest, (2) A Secret, (3) What Does Little Birdie Say, (4) The Baby Swallow, (5) Who Stole the Bird’s Nest?

In connection with nature study many beautiful poems and prose selections may be read to the children or assigned for silent reading at seats. Many of these may be found in *The Plan Books* and *The Month by Month* series.

For junior classes give supplementary blackboard lessons. See *Ontario Reading Manual*, Chapter V.

A special period should be set apart for unrelated reading—stories asked for by the children, incidental bits of humour, selections from the Course in the *Literature Manual*.

Section 4. *Language.*

In the following exercises the aim is to lead gradually but definitely to an intelligent knowledge and use of the simple sentence forms. The *numbers* indicate the order of development, not necessarily the number of lessons.

1. Base the lessons on the poem, "Bird Thoughts". Question thus: "What is the name or title of the lesson? Is it a good title? Why? There are different ways in which we may tell our thoughts—by drawings, with plasticine, through actions and in words. The third stanza of the poem tells us in which of these ways the *bird* told its *thoughts*."

2. (a) Let each child imagine himself the little bird and be prepared to *tell in words his thought* about the world, using the words of the poem.

(b) After a few minutes' silence call upon different pupils to tell or express their thoughts in words.

(c) Write each of these thoughts upon the blackboard.

(d) Each child may read from the blackboard his own thought, then the thought of a class-mate.

3. (a) The teacher may say: "To-day, instead of having *Bird Thoughts* about the world, we shall have *Boy Thoughts* and *Girl Thoughts* about the pansies we gathered from our school-garden. (Any other nature topic may be substituted). Look closely at your pansy. Tell us your thought about its colour. Smell it—tell your thought. Feel it—tell your thought. Count the number of leaflets—tell your thought. Tell any other thoughts you have about the pansy."

(b) The teacher writes each of the approved statements upon the board. If any change is made in the form given by the child, emphasize the fact that the *thought* is the one given by the pupil but told in a better way.

(c) Teacher directs: "Read the group of words telling your own thought. Read the group of words telling Fred's thought," etc. "We have a *name for a group of words telling a thought*. We call it a *sentence*." (Write word on board).

(d) Give exercises requiring the use of the word "sentence" by the pupils, as: "Tell which sentence you like best, then read it." Pupil: "I like the third sentence best—'The pansy has a velvety feeling.'"

4. With what kind of letter does each of these written sentences begin? What mark is at the end? Impress names *capital* and *period*.

5. Give pupils practice in the construction of oral sentences about topics in which interest has already been awakened.

6. Transcription of sentences from lessons previously read or discussed. For example: First Reader, page 90—Construction of the Nest. The dog gave hair. The sheep gave wool, The cow gave hay. Emphasize punctuation.

Word-study should be based upon selections studied in reading and literature. For example: First Reader, page 90, the use of the word *gave*; page 69, *came* and *flew*; page 41, *there was* and *there were*; page 7, words indicating sequence—*first*, *next*, *at length*. (For method see September number of THE SCHOOL).

Section 5. Dictation.

(For Senior Classes).

- (a) "Slumber, slumber, little one now,
The bird is asleep in his nest on the bough;
The bird is asleep, he has folded his wings,
And over him softly the dream fairy sings."
- (b) This is October.
The air is cool.
The sky is blue.
The frost has come.
The leaves are turning bright.
Squirrels are gathering nuts.
The insects are going to sleep.

(c) Selections from lessons studied in Reader.

(d) Unrelated Spelling. See *Manual*.

Section 6. Composition.

(a) Impersonation and Riddle Games based on *Bird Thoughts* and nature topics. Aim:—To develop the power of oral description.

(b) "An Imaginary Walk" based on Helen Hunt Jackson's poem, "October". At first each pupil may tell one thing he saw and give two or three short sentences describing it. Later the answers of several children may be combined.

(c) Tell the story of "The Life of Helen Hunt Jackson", given in *October Plan Book*. The story contains many beautiful thoughts and apt expressions, and can readily be reproduced.

In oral reproduction train the child from the first to develop the story step by step, giving each incident in its proper order. Question the pupils into a clear comprehension and a concise expression of the several parts. Headings written on the board will lead the child unconsciously into paragraph writing, and will assist him also in giving a connected summary of the story.

Section 7. Busy-Work in English.

The busy-work should be directly related to the oral class work.

1. Material.—Printed or type-written sentences from Reader or Spelling Exercises in Manual, mounted on card-board and cut into separate words.

Work.—(a) Construct, using a copy, the original sentence. (b) Find duplicates of the words in the sentence. (c) Construct the sentences from memory. (d) Construct original sentences.

2. Above exercises using letter-cards.

3. Copy in script the above exercises.

4. (a) Word-building with letter-cards and in script. See "Seat-Work" in Spelling Manual. (b) The words formed used in sentences.

5. Material.—The poem or memory-gem studied in class may be type-written or cut from an old reader and pasted on tag-board. One copy is cut into lines, and another into words and put into a box.

Work.—(a) With a copy of the poem before him the child arranges each line of a stanza in its proper place.

(b) The words of a stanza or line are arranged in order, first from a copy, then from memory.

(c) Words are arranged to make original sentences.

6. Material.—Short story printed on cardboard with a few important words omitted in each sentence. Below the story, the printed words are placed in a column. The story complete is cut up and placed in a box or envelope.

Work.—Child builds story, supplying omitted words in proper places, first with copy, then from memory.

NUMBER BY DEVELOPMENT.

During the first month no symbols were used. The work was entirely oral and objective. Before introducing the next stage, the work of the first month should be reviewed thoroughly and systematically. One way of doing this is through the building of a "stair" with cubes.

In the following review exercises note the order of the points:

(a) A problem for solution.

(b) Construction.

(c) Comparison.

(d) Application of knowledge.

Each pupil places one cube for the first step. The teacher then asks questions:

1. (a) How many cubes are needed to build the second step?

(b) Build the second step.

(c) How many *more* cubes in the second step than in the first?

(d) How many cubes are used to build both steps?

2. (a) How many cubes are needed to make the third step.

(b) Build the third step.

(c) How many *more* cubes are needed to build the third step than

the second? than the first? How many cubes *less* in the first step than the third step, etc.?

(d) How many cubes in the first and third steps? Second and third? In the first three steps?

Continue as before. The *sum* must not at this stage exceed *ten*.

SECOND STAGE.—SYMBOLS INTRODUCED.

1. Emphasize the group as a whole, show the written symbol, and give the name *figure*. Teach the making of the correct forms in the writing lesson.

2. Cubes, sticks, etc., are placed before each child with ample space to arrange them as directed by teacher. Teacher dictates *orally*. Show me a *four* and a *two*, etc. Pupil constructs, thus: or : : : : The *written* dictation is then shown $4+2$. No *answers* are asked for at this stage.

Before assigning seat-work give much practice in *reading* orally similar expressions: (a) on board; (b) on flash cards.

BUSY-WORK IN NUMBER—SYMBOLS.

1. (a) Children mount a calendar sheet, then cut out the figures without waste of material.

(b) The sheet containing the holes is then placed on cardboard and figures traced. The figure thus made is then cut out. These exercises impress the *form* of the figure.

2. On the back of the card containing a figure make the number picture corresponding to the figure. The children arrange the number pictures following an order on the board and match with figures, or place the figure in a given order and match with picture numbers.

3. Figures sorted and laid in rows; or, arranged in order of numbers.

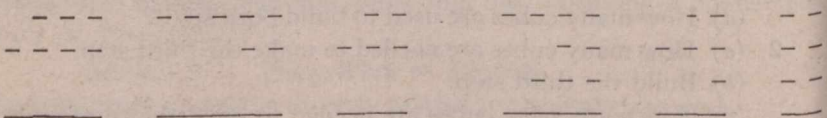
4. Dictation exercises. Teacher writes on board a dictation exercise. Pupils construct on peg-board. At the end of the first period the exercise on the board is covered, and pupils reproduce the exercise from the peg-board. This may be done with calendar figures, or on paper with pencil.

For example:

Teacher's Blackboard Dictation—

3	5	2	4	2	2
4	2	3	2	3	2
—	—	—	3	1	2
			—	—	—

Pupil's Peg-board Arrangement—



History of Literature in the High School

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THE High School curriculum in Ontario is based entirely on the study of masterpieces, and as a consequence little attention is paid to the history of literature. True, there are short sections in the High School text-books dealing with the authors of the various periods, but the work based on these sections is bound to result in nothing better than lists of names. Under these conditions pupils leave our schools in most cases without even a rudimentary knowledge of the course of English literature. At one time far more attention was given in Ontario high schools to the history of literature. The Pass Junior Matriculation paper of 1879 contains the following questions: 1, Write brief sketches of the life and writings of Sir Francis Bacon, Beaumont, Fletcher, Lyly, Ben Jonson, Burton. 2, Point out clearly the distinctive traits of the literature of the Elizabethan period, showing how it was affected by the domestic and foreign relations of England. 3, Give a short history of Milton, naming his chief prose and poetical works. For some years after this, candidates for First Class certificates, Grades A and B, had a paper each year on the English language and the history of English literature, besides other ordinary literature papers. In 1885 a First Class, Grade C paper contained two questions on the history of literature and six on Shakespeare's *Coriolanus*.

In the United States a good deal of attention is given to history of literature. Most of the important colleges and universities have adopted the uniform entrance requirements of the College Entrance Examination Board. These requirements include an extensive course in supplementary reading and literature which embraces a course of reading and study in literature works by representative authors from Shakespeare to Tennyson. In addition, a rudimentary knowledge of the history of English literature is required. The Harvard University calendar specifies that general questions may be asked concerning the lives of the authors, their other works and the periods of literary history to which they belong. Chicago University goes further, and lays down, as one requirement for matriculation, "some definite knowledge of the history of English literature from the time of Chaucer". The prevailing American view is expressed, as follows, by Carpenter, Baker and Scott in their volume, "The Teaching of English", p. 282.

"With stronger reasons we may urge the importance of the study in the high school of the general history of English literature on both sides of the Atlantic. It is not an attractive subject to the schoolboy, let us frankly admit. But in its general outlines, its larger movements, it presents a development of thought and feeling more or less evidently connected with the history of the people, and constituting an interesting and valuable chapter in the history of human thought. Such an outline should be more than a mere skeleton. It should be based upon a well-written text-book, and should be accompanied with enough incursions into the principal authors to get some sense of what they are like. If such a course succeeds in making the pupil feel a little more at home in the great body of our literature, and leaves in him the feeling that there are good things to be read at his later leisure all along the line between Chaucer and Tennyson, it will have more than justified itself".

Everyone will admit that it is desirable for our pupils to have a reasonable knowledge of the history of English literature. But is it wise to add this to all the other things our boys and girls must know? I have no desire to alter the Ontario curriculum by adding to it the history of English literature as a formal subject. Such history, unless based largely on the texts read in class is likely to be both uninteresting and unprofitable. An examination based on a text-book, such as is advocated by Carpenter, Baker and Scott, would lead simply to the cramming of long lists of authors and books, and would awaken little desire to read literature. But much can be done by the arrangement of the literature course and by incidental instruction to give our high school pupils an historical background for their reading, to show them a little about the development of English literature, and to guide them in their reading.

The course in literature for each of the first two or three years in the high school, could be arranged in such a way as to make it representative of the main periods. For instance, a play of Shakespeare is usually read in each form. By using such a collection of lyrics as *The Golden Treasury* it would be easy to give the class a few suitable lyrics to further illustrate sixteenth century poetry, while a good prose anthology in the hands of the class, or even in the hands of the teacher only, would furnish selections of sixteenth century prose. The age of Milton could not be dealt with so readily, but enough of both prose and poetry could be read to make the children thoroughly familiar with the leading names at least. The eighteenth and nineteenth centuries could be dealt with even more easily, for we always read a good deal of literature from those centuries. This arrangement could be carried out, and yet give the classes nothing but eminently suitable literature.

Once in a while the teacher would have to give his class a talk about the books and authors with which they have become more or less familiar. This might be illustrated by wall charts and pictures and made thoroughly interesting.

The work of interesting pupils in the history of literature will be much easier if the school has a well chosen library, or better still, if in each class room there is a collection of books from which the teacher can read selections and to which he can refer the class. Not all his class will read the books or the selections in which he tries to interest them, but a number will do so and will get a real taste for good literature.

The teacher can get plenty of aids for this work. The Golden Treasury, on account of its excellence and its cheapness, can be placed in the hands of all the pupils, but it is only one of a number of fine anthologies of both prose and poetry which the teacher can use and place within the reach of his ambitious pupils. There are many short histories of literature suitable for the school library. Well illustrated books are still dear, but nothing helps more to interest live, growing children. Fortunately it is becoming easier to secure good collections of lantern slides to illustrate literary masterpieces and literary history. For example, one English firm, is offering not only a large series of slides dealing with the Shakespeare country, but sets of slides taken from photographs of the plays as presented by leading actors.

Naturally the work in the history of literature will be spiral. Form I will get a first sketch; for Form II this sketch will be a little fuller; the higher forms will get additional details. The work will not be burdensome at any stage for either pupils or teachers, if kept within reasonable limits. If such a scheme is carefully planned and systematically carried out, our pupils will leave school with a good background for their future reading and, we may hope, a keener interest in literature.

Two ladies—each with her child—visited the Chicago Art Museum. As they passed the "Winged Victory" the little boy exclaimed: "Huh! She ain't got no head." "Sh!", the horrified little girl replied. "That's Art—she don't need none!"—*Harper's Magazine*.

When small Sigrid made her first appearance in an American school, says *Harper's Magazine*, she was asked the usual puzzling questions, one of which was:

"What is your nationality, Sigrid?"
Sigrid tossed her flaxen braids. "I'm an American of Norwegian design," she said promptly.

Seeing an unfamiliar plant by the way, Professor Smithres, the famous botanist, stopped to study it. A barefoot boy stopped and inquisitively tried to "squint" through the professor's magnifying glass.

"Do you know this plant, sonny?" said the professor kindly.

"Yep," said the boy.

"To what family does it belong?"

Pointing to a house half hidden by the trees of the road, the boy said: "Jones's."

Kindergarten-Primary Suggestions

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IN the month of September the little kindergarten-primary child came to us to start on his education voyage. This little citizen of the new social community, in order to profit by his journey, must speedily have a sympathetic relationship established, whereby a deep and abiding faith will be fostered between him and his teacher. The power of insight to see, feel and live in the child's world, is necessary to call forth spontaneity. When the teacher catches the spirit of his happiness, humour and activity, he will give us in return the faith which abides—the only passport needed to set sail.

THE INSTINCT OF INVESTIGATION.—The natural desire or instinct to wander around and look at things suggests a natural centre of interest for study, viz., the class-room. The familiar playthings, *e.g.*, the balls of the first gift, may be suspended above the blackboard, the colour names, red, orange, yellow, green, blue, violet, being written below. A large ball and a small one side by side, introduce size, *big, little*.

A TOY TABLE.—The teacher provides a small toy table. The pupils are encouraged to bring toys and other playthings, *e.g.*, top, doll, train, furniture, spoon, flag, dog, horse, rabbit, etc. This material furnishes endless opportunity for recreation. Educational thought is growing more and more cordial toward the value of the play spirit in the use of the concrete. The right use of material, familiar to the child, not only gives wholesome pleasure, but promotes mental brightness and moral growth. Many of the games may lead directly, though incidentally, into language training, work-recognition, etc.

[Incidental Reading.—Primary Reading Manual, p. 10, sect. 10 (*a*); p. 56, sect. 41 (*a, b, c, d*).]

PICTURES.—Pictures taken from illustrated story books are hung within the range of the child's close vision. Subjects, such as "The Three Bears", in which conversations take place, create interest and stimulate thought. "The Blacksmith" suggests industrial topics.

THE BUILDING BLOCKS known as the fifth and sixth gifts in the kindergarten give an incentive to the child to create and a basis for further self-expression in language.

THE SOCIAL INSTINCT.—To promote natural growth formalism must be eliminated in the child's world. The "Good Morning" tone must carry magnetic suggestion and stimulate warmth and joy in a bright

response. "Good Morning" and "Good Afternoon" written on the blackboard may be pointed to by a pupil who receives pleasure in the class answer, while visualization is taking place and knowledge of substantial merit is being imparted.

The Morning Prayer, short, simple, meaningful:

"Help me Lord, in all I do,
To be loving, kind and true."

satisfies the soul of the little petitioners.

The Morning Hymn, bright, wholesome and preferably *new*

"Thank God for the world so sweet,
Thank Him for the food we eat,
Thank Him for the birds that sing,
Thank our God for everything."

THE INSTINCT TO COMMUNICATE makes language our foundation for the study of reading. The teacher must hold the compass and chart in the Morning Talk that time be not wasted in desultory and meaningless conversations. *What we saw, what we did*, during the holidays may prove a point of departure for good language development. The story with its rhythmic repetitions, *e.g.*, Maud Lindsay's Little Gray Pony—must not be omitted. An easy, rhythmic, self-appealing verse will serve as an incentive to high living throughout the day, *e.g.*:

"A little bird sang in his song so gay
Try to be kind and helpful to-day,
In your work and in your play."

THE KINDERGARTEN OCCUPATION OF PICTURE SEWING may be used to correlate with reading. Dramatic expressions of child-life have been taken in action words, *e.g.*, run, hop, skip, jump, etc., sight words from the impulse to handle things on the toy table and in the room and sight groups useful in sentence building, as, I see, I have, See my, Do you. (Primary Reading Manual, chap. II, 1). Blank cards on which the teacher prepares with care and precision an outline of a boy and a top, a girl and a cat, etc., are perforated with large holes, to permit the use of coarse needle and wool and so prevent all possibility of eye strain. On these cards is written a descriptive sentence, as, "See my top"; "Do you see my cat?" or "Good Morning little bird," etc., according to the originality of the teacher and the power gained by the child.

THE INSTINCT FOR BODILY MOVEMENT makes it imperative that we remember that the mind is trained through the body, hence the regular play period out-of-doors, supervised at times, free play to relax at other times the body and give abundant joy. The kindergarten-primary teacher holds in her children the plastic future. Every morning begins a new day in which she re-plights her faith with the spirit of the little child, aspiring, hoping, building for an unsurpassed future.

Educative Handwork

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Constructive Work—

“If hand and eye you deftly train,
Firm grows the will and keen the brain”.

—GOETHE.

October is the harvest month and the month of gay foliage. “October’s child has wealth untold, and his hands are full of outdoor gold.” The outdoor world is a vast storehouse holding a wealth of nature material. Each month offers something new which we may add to our collection. Nuts, acorns, leaves, nut hulls, burrs and pods may be gathered.

The flowers, grasses, sedges, wild berries, autumn leaves and vines, all may be used for decorative purposes. Borders may be made from sassafras, oak and maple leaves, which have been pressed and varnished.

The nuts, nut hulls, seeds, hollow weed-stalks, pine cones and berries may be used to make attractive strings, while a portière made of acorns and hollow weed-stalks is a delight to all. See whether the child shows any organizing power in the construction of the string. Later let him string with reference to form and colour.

Eucaliptus seeds, red magnolia seeds, squash seeds, apple seeds, rose-hips, snow-berry seeds, sunflower seeds, maple keys, cranberries make strings that charm the heart of the child and at the same time develop the idea of a repeated unit. Macaroni cut into one-inch pieces and strung with the seeds gives variety.

Cunning little dolls may be made from the twigs of trees. Cut heads, hands and feet from pictures in a magazine and paste them on the twigs. Then dress them with crepe paper or bits of silk.

Vegetables may be made into dolls, cradles, boats, the three bears, Cinderella, her carriage and mice. A cucumber hollowed out makes a boat, and with mast and paper sails added, delights the boy; or, with pasteboard rockers slipped into slits cut across the cucumber, makes a cradle for a doll.

Funny little Brownies may be made of two fat horse-chestnuts and five toothpicks (two for the arms, two for the legs, and one to fasten the nuts together). Do you not recall when, with childish delight, your plates and saucers were made of the acorn top while quaint little bowls, cups, pitchers and teapots were made of the nut itself? Corn stalks give material for dolls’ furniture, while from the cobs we may make candle sticks and dolls.

For Thanksgiving, cut out turkeys and paste for a border. Cut out pictures from a catalogue and have a pictured dinner. Collect pictures of vegetables, crackers, nuts, fruits, etc., and paste on sheets of paper. In the plasticine make objects that are typical of the season and that the child is thankful for.

The high water mark of October comes with Hallowe'en. Try to make the children feel the Brownie spirit, and associate Hallowe'en with pleasant pranks and helpful deeds. All sorts of fairy-like surprises may happen, and the children may find many helpful things to make or do for others at home and at school.

Borders of pumpkins or brownies are cut out and pasted on paper. A poster of brownies performing their funny tricks is a great delight.

Plasticine is an antiseptic material and will retain its plastic condition for a long time. It is a most valuable means of acquiring knowledge, and of giving expression to that knowledge. It aids in giving tangible expression to ideas of form, in cultivating powers of observation, and in developing the sense of touch. Modelling appeals to the child because of its near approach to the real thing. It prepares the way for mass drawing; it interprets in actuality the forms of which a child has knowledge. He comes to know bulk, substance, material or mass, and from this the step to mass drawing is quite easy because he has been thinking in terms of mass.

It is an easy medium of expression and it gives excellent finger-training, strengthening and educating the muscles of the hand for pencil work later on. At first, to allow the child to become familiar with the plasticine, free work is best. Then roll it around between the palms of the hands until a sphere is made. The next step is to form rolls of it, keeping the palms of the hands parallel to each other when rolling. Lastly make a ball, press it flat and then press it into the desired shape with the fingers and thumb of the right hand. Start with the basic form and mould into the shape desired.

From the type forms—sphere, hemisphere, cube, cylinder, ovoid, prism, cone—many forms may be moulded.

1. Sphere.—ball, orange, apple, pumpkin, beads, grapes, snowman. Slightly flatten the sphere for dishes, buttons, cookies; or pinch out the ears and tail for a cat or a rabbit.

2. Hemisphere:—bell, cap, nest, shell, umbrella.

3. Ovoid:—plum, egg, lemon, bird, vases.

4. Cube:—ink-well, jack-in-the-box, stove, table, chair.

5. Prism:—book, suit-case, clock, post.

6. Cylinder:—muff, rubbers, boot, hat, rolling-pin, pencil, firecracker, lighthouse, windmill.

7. Cone:—carrot, parsnip, top, wigwam.

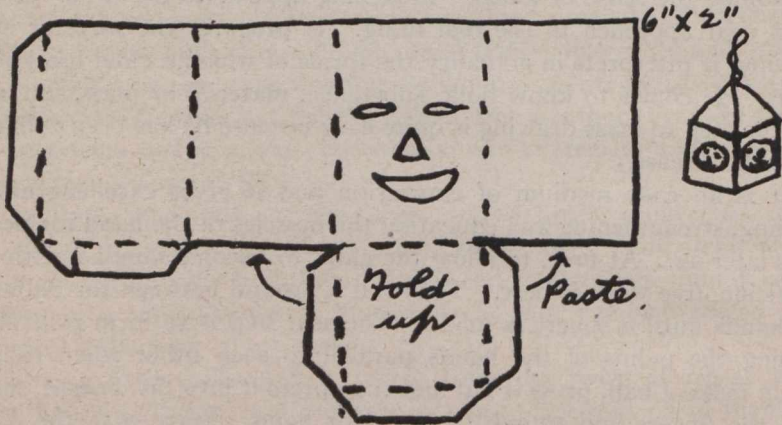
The designs given last month for sticklaying may be worked out with plasticine. Designs made up of geometric units, such as, the square, triangle, circle may be used in borders, centres or corners.

On pages 113 to 117 of the Manual on manual training, many uses to which plasticine is put are illustrated. An illustrative lesson is given on page 25 and specific instruction in making fruit and animal shapes is given.

To correlate with the English studies a tree from a cylinder, a nest from a hemisphere, an egg or bird from the ovoid may be made.

In sticklaying the tree, the nest, the bird, the leaves may be made. The home thought may be illustrated in making a house, the people in the house, and in showing the different activities of the people. The stickmen engaged in different activities are an aid in pose drawing.

In paper cutting a tree may be cut out, a border of nests may be made or a bird standing on a nest may be traced and cut. A series as "The Story of Birdie's Thoughts" may be cut and pasted on sheets of paper.



In paper modelling make a Jack-o'-Lantern box as illustrated. Fasten strings to the corners and hang up.

To make the peg board to be used in number work take the lid of a pasteboard box, rule off in half-inch square. Prick a hole at the intersections.

For card sewing, trace, prick, and sew a tree, nest, egg, leaf, pumpkin pie, turkey and brownie.

Art.—This month brings us to the realization that summer has fled, so why not fill the drawing lessons with a genuine autumnal spirit? The leaves are so beautiful that leaf colouration makes an excellent lesson. Colour leaves of trees and vines, *e.g.*, barberry, snow-berry, woodbine, Boston ivy, oak, maple and cut them out afterwards. In drawing

flowers draw first the stem to get the general direction, second the flower and third the leaf. Nests containing eggs or birds may be drawn.

Bird thoughts in English studies suggest a scene. Draw with crayon the blue sky and the green grass. Then a tree with foliage. A nest may be partly seen. A bird near by completes our picture. From the bird's home to our home is an easy step. To a sky and grass picture, add a house and a boy or girl performing some active duty as chopping wood, looking at a nest, or running a message. In the pose work the stickmen will help in getting the pose while the jointed brownie may be doing all sorts of funny antics. Draw both in mass.

Recreation.—The child has an instinct for play and is following the demands of nature in his desire for play. For a breathing exercise to gain easy controlled breathing have the child sigh out his breath, imitate the sound of the waves, winds, buzzing flies, or smell an imaginary bunch of roses.

Rest exercises, interspersed between lessons, are valuable enough to justify their use. When the child reaches the fatigue point he loses his power of interested attention. A quick exercise relieves and rests him. When he becomes restless, and his feet noisy it is a sure sign of rebellion of the physical nature. One or two of the suggested exercises will work like magic: Run up and down the aisle, march on the toes, hop on one foot, swing between desks, imitate the motions of a carpenter, a shoemaker or a bird.

For Hallowe'en cut out a large cat from black paper or cloth and as in the ancient "donkey game" pin to a sheet or door. The blindfolded children take turns in pinning on tails. To pin caps on a brownie is another variation. A big brownie is suspended from a stick or the ceiling. With blunt scissors the children try to cut it down.

"The Fairies and Brownies Game".—The fairies form a circle and the brownies are inside. To the tune of "Go round the Valley" sing "The brownies trip around, the brownies trip around, the brownies trip around, now see how lightly they trip." The fairies glide around and the fairies skip around inside. In the next verse the brownies are asleep and the fairies reverse the circle while they sing, "The brownies are asleep (three times). Now wake them if you can". The brownies and fairies change places and the game continues.

Miss Hathaway, teacher in a country school, always tried to make the lessons as interesting as possible to her little pupils. "Now, children," she said, "you have named all the domestic animals but one. Who can tell me what that one is?" Silence reigned. "What!" cried the teacher. "Does no one know? Now, think! It has bristly hair, is fond of the dirt, and likes to get in the mud." One little boy at the end of the class raised a timid hand. "Please, Ma'am," he said, reflectively; "it's me."

Nature Study for October

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THE CRAYFISH.

THE following outline is intended to represent a course of study of the crayfish suitable for pupils of the fourth form of the Public School. It is put forth as an effort to provide in as logical a manner as possible a stimulus to an interesting and profitable study on the part of the pupil. Before entering on our main task, however, let us recall two or three generalizations whose importance should not be overlooked. The first of these is that properly conducted courses in nature study, in addition to providing the pupil with actual enjoyment, lead him to face, possibly with less timidity, certainly with more hope than he otherwise would, the subsequent courses in biology. But this "preparation for science" is not the fundamental aim of nature study. The aim is broader than that in that it includes development of the powers of observation and the appreciation by the pupil of some of the wonders and beauties of the world in which he lives.

The value of all nature study lies in the work with the actual things themselves. Mere book work is useless and should be largely avoided. Under proper guidance the pupils should undertake individual and collective observation and from this draw their conclusions. Observations are best made when the pupil has a problem to solve, and therefore it is the teacher's duty to free his questions from all vagueness and ambiguity, not necessarily implying in them the results of the observation but wording them in such a manner as to give the pupil a clear conception of what is wanted. Only in this way is a sustained interest made possible.

Observations of a crayfish by a fourth class may be divided broadly into two main kinds: (1) those relating to the *habitat*, and (11) those concerned with the habit and structure of the animal. Study of habitat can only be made in the field, and while field-work is also advantageous for observation of habit, its place may be taken largely by aquarium study, which provides, perhaps, better opportunity than does field-work for the close observations of such functions as locomotion and feeding. For the more minute, detailed study of structure, a dead specimen is best. After becoming acquainted with the essential structure of the dead animal he can then with profit relate structure to function in the living creature.

Before asking the pupils to undertake their field-work, it would be wise if the teacher made sure that each pupil had a definite idea of what to look for, since even some fourth book pupils are unacquainted with the general appearance of the crayfish. Having made sure of this prerequisite the teacher is then in a position to lay before the pupils some such series of directions and questions as the following, asking that each pupil use the results of his own observations to furnish his answers:

A. Habitat.—Turn over several stones in a shallow creek and watch closely for the appearance of crayfish. Look for them also under overhanging banks. Is the water in which crayfish are found muddy or clear, deep or shallow, rapid or quiet? Do you often see crayfish moving about in water even in which they are known to be abundant? Why? What time, would you suggest, are they probably most active?

Examine the region surrounding the spot from which the crayfish darted, and try to find crayfish "holes". Is the opening of the "hole" on a level with the surrounding earth or is it raised up as a sort of "chimney"? How high is the chimney? Why is the mud built into a chimney rather than thrown away? What would happen to a well if its mouth were no higher than the surrounding ground? What is the use of crayfish holes? What becomes of the crayfish when the creek dries up? Do you think a very rocky and gravelly region would have many crayfish? Why?

Does the colour of the crayfish resemble that of its surroundings? Why is this resemblance an advantage? Did the crayfish you saw attempt to stir up the mud on the bottom when you disturbed it? If so, what purpose did it accomplish? Is its colour better suited to a life in clear or a life in muddy water?

B. Habits. 1. **LOCOMOTION.**—In what direction does the crayfish usually move in the water when suddenly disturbed? What part of its body does it use to propel itself backward? In what other direction does it sometimes proceed? How does it accomplish forward movement? Does the crayfish move at a more uniform rate when swimming backward or forward?

Has the crayfish any method of moving itself, other than that of swimming? What parts of its body does it use in crawling?

2. **METHOD OF DEFENCE.** Tease the animal a little with a pencil and note how it endeavours to defend itself from attack. Allow it to grasp the pencil. What parts does it use for this purpose? Do they seem quite strong considering the size of the animal?

3. **FEEDING.**—Try to find out what kind of food the crayfish likes best by offering it several different varieties, such as meat, vegetables, bread, etc. How does it get the food to its mouth? Does it tear the

food with the big pincers? Are the small appendages near the mouth used in the process of feeding? Would you say the crayfish is a slow or a fast eater?

4. **BREATHING.**—Does the crayfish take air into lungs, as human beings do, or does it breathe by means of gills as fish do? Why would it be impossible for the crayfish to use LUNGS for breathing? See if you can make out the “breathing current” by placing a few drops of ink near the base of the hind legs of a crayfish resting quietly in shallow water. Note where the ink was drawn in and where it comes out. Can you make out any vibration of the front part of the body that would account for this current of water?

5. **SENSES.**—What sort of covering for the body has the crayfish? Does such a covering suggest the possession of a delicate or a dull sense of touch?

Touch one of the eyes gently with the point of a pencil. Can the eye be moved in more than one direction? Is the eye placed in a socket like ours or is it placed on a stalk? What is an advantage of having the eyes on stalks? What is a disadvantage?

Touch the long slender structures extending out from the front part of the body. Does the animal feel it? What purpose do you think these structures serve? Can these “feelers” reach farther than the big claws?

C. External Structure.—Examine a dead crayfish, and make out two large distinct regions or divisions of the body. Which region is the larger, the front or the rear? Why? Which region can be bent? Why?

Is the body covering hard or soft? How does this help the animal?

Examine the tail. Why is it a good organ to use in swimming? What do you find attached to the under surface of the rear portion of the body? How many pairs of these are there? Are they used in swimming? How do they differ from the appendages of the front portion of the body? How many pairs of legs are attached to the front region? Are they all of the same size? How does the front pair of appendages differ from the rest? What are the uses of this pair? Is each leg attached firmly to the body or can it be moved as if it were hinged? What is the function of the legs behind the big claws? Which way do they point when not in use? Is this an advantage when the animal wishes to swim backwards? Why?

In the front part of the front region try to find a small opening called the mouth. Can you see any small appendages in the region of the mouth? What purpose do they serve?

Examine the feelers. Are they more flexible than the other appendages? How long is the eye-stalk? Is the outer covering of the eye hard or soft? Why?

The foregoing outline embraces the most important points which a fourth book pupil can comprehend. The whole aim of the teacher should centre around an attempt on his part to get the pupils to investigate for themselves facts which can only be truly appreciated when they are obtained, not from books and diagrams but from an examination of the actual specimen itself.

The second part of our discussion will deal with "Information for the Teacher". It is not intended to enter fully upon a description of the crayfish for it is presumed that every teacher who deals with the subject of nature study has a more or less complete knowledge of the creature in question. Our remarks, therefore, will have to do with only such phases of the subject as are apt to escape the memory of the teacher who is busied with a multitude of other topics.

Regarding the habitat, the most important feature is the need of a ready and abundant supply of water, while perhaps the most interesting feature is that relating to the holes and mud-chimneys made by some of the burrowing species.

The crayfish has two methods of locomotion, walking and swimming. It walks with the four posterior pairs of legs, holding the remaining pair which bears the claws, out in front. In swimming, the broad tail fin is spread out as wide as possible and is forced downward and inward by the quick contraction of very large abdominal muscles. This action, of course, forces the animal in a backward direction. The process of swimming is rapid, but somewhat jerky, and as the animal usually remains close to the bottom, the body and dragging legs invariably stir up a cloud of sediment that hides the animal from any lurking enemies or from its pursuers.

Further consideration of *defence* is perhaps unnecessary, but it might be well to say a few words regarding the feeding habits. The food of the crayfish consists of both plant and animal matter, preferably the latter. Worms, snails and insect larvæ constitute a large part of its food supply, while it is also a scavenger, consuming considerable quantities of dead fish, clams, and other substances that might pollute the water. The food is usually torn off in bits by the large pincers and passed to the mouth parts by the small pincers on the walking legs. The food is partly masticated by the mandibles, maxillæ and maxillipeds and partly in the stomach. With a fourth class, however, the names of the various mouth parts are unnecessary, and the process of feeding, and mastication can be carried no farther than can be easily seen by observation of the externals.

The plume-like gills found just inside the side walls of the carapace are the organs of respiration. The current of water passes over the

gills from the back to front and is the result of the vibratory motion of gill scoops in the anterior openings of the gill chambers.

Pupils of the fourth form of the Public School should be able to make observations concerning the senses of sight and touch by examining respectively the eyes and the antennæ or "feelers." The crayfish is also thought to possess the sense of smell and perhaps taste.

The external characteristics of the body are extremely important and should be carefully noted. The body is divided into two main divisions: the anterior region (or cephalothorax) and the posterior region (or abdomen). The former is made up of the head and thorax closely joined and is covered above and on the sides by a hard shield-like structure known as the carapace. The abdomen is plainly divided into segments. As a matter of fact the cephalothorax is also segmented but the segmentation is obscured on the upper surface by the carapace though it is revealed on the lower surface.

On the lower or ventral surface of the abdomen are attached numerous small leg-like organs called 'swimmerets', one pair for each segment in the mole.

The appendages of the cephalothorax may be divided into five groups: (1) the walking legs, five pairs; (2) the foot-jaws or maxillipeds, three pairs; (3) the jaws, two pairs of maxillæ and one pair of mandibles; (4) the antennæ, one pair; (5) the antennules (smaller) one pair.

It will be difficult for the pupils to make out the various mouth parts, but they should at least become familiar with the general appearance and points of attachment of the walking legs and antennæ. Moreover, the modification of the first pair of walking legs should be noted. The great importance of these great claws or pincers can be readily appreciated when they are closely examined.

Resistance to the water by the walking legs during the process of swimming is considerably lessened by the fact that the walking legs, when at rest, point toward the anterior end of the body.

The large eyes are borne on stalks which are extensible and can protrude the eyes or withdraw them out of the way of danger. The covering of the eye itself is hard and serves as a protection against injury.

A delicate sense of touch is provided for in two long feelers or antennæ borne on the front of the head. Above each antenna is a smaller appendage, the *antennule*, with which are thought to be associated the senses of smell and of equilibrium.

Teacher—In the sentence, "The sick boy loves his medicine," what part of speech is "loves"?

Johnny—It's a fib, mum.—*Selected.*

Notes and News

[Readers are requested to send in news items for this department].

S. J. Keyes, B.A., B.Pæd., formerly English master in Peterborough Normal School, has been transferred to the Normal School in Toronto. His subjects are science of education and reading.

S. J. Stubbs, B.A., head of the English Department in Peterborough Collegiate Institute, has been appointed English master in Toronto Normal School.

R. W. Murray, B.A., of the staff of the Toronto Normal School, has been granted leave of absence for one year on account of illness.

Miss M. C. Runnings, B.A., has been appointed to the staff of the Ottawa Normal Model School.

Miss Lillian B. Harding of Withrow Avenue School, Toronto, is now in charge of the kindergarten-primary form in the Toronto Normal Model School.

Miss M. E. Butterworth of the Ottawa Normal School has been granted leave of absence on account of illness.

In addition to those mentioned in September, the following graduates of the Faculty of Education, Toronto (class of 1915-16) have accepted positions as follows: John E. Montgomery, B.A., Normal Model School, Toronto; Miss Anne Galbraith, Drayton; L. J. Garvey, Assumption College, Sandwich; Miss Mary B. Murchison, Virginia, Ont.; Jas. E. Cosgrove, R.R. 2, Lisle, Ont.; Miss Helen M. Williams, B.A., Strassburg, Sask.; Arthur W. Pow, Verschoyle; Harold E. Welsh, Ivanhoe; Miss Florence Rowntree, Salem; Miss Nora Griffin, Ignace; Miss Abigail Hunt, Bright; Miss Pansy Forsythe, R.R. No. 3, Niagara Falls; Miss Eva M. Eaton, Grimsby; Miss Vera A. Brownlee, Port Credit; Miss Jean E. Martin, B.A., teacher of mathematics in Iroquois High School; Wilfrid L. Miller, Principal, Brownsville Public School; Miss Teresa Coughlan, Rockland; Miss Kathleen Love, R.R. No. 1, Humberstone; Clarence L. Kerr, Plainville; Miss Ella S. Dawson, R.R. No. 1 Leamington.

THE SCHOOL will be glad to be informed of appointments accepted by graduates of the Faculties of Education, Normal Schools and Model Schools.

Our many new subscribers will be glad to know that THE SCHOOL has published in book form all the material necessary for teaching the present war. This book may be had, postpaid, for 40 cents. It contains causes, events for almost every day (with important events in italics), the history of each of the various campaigns, questions—really everything that the teacher needs for class work in this subject. Of course, a teacher reads much outside his class work in any subject and of such books an excellent selection is furnished by the publishers who use our advertising pages. These lists should be consulted.

T. M. Henry, B.A., formerly principal of Iroquois High School, is now mathematical master in Cobourg Collegiate Institute.

Mrs. J. M. Simpson, formerly of Elmvale, is now teaching in Lakefield.

Miss Elsie K. Beaman, formerly of Comber, has accepted an appointment in Deseronto.

Miss Myrtle Keene has removed from Harold, Ont., to Corbyville, Ont.

Miss Elsie M. Cooke of Guelph is now teaching in Greenock, Ont.

G. A. R. Bush who taught last year at Plattsville is now at Barriefield Camp with the 72nd (Queen's) Battery.

R. H. Wallace is now Principal of Meaford Public School.

Miss Helen B. Peterson, formerly of Manitowaning Continuation School, is now principal of the Continuation School at Agincourt.

E. W. Moss, Principal of Paris Public School, enlisted with the 235th battalion as lieutenant. On his departure his staff presented him with a purse of gold and his pupils with a wrist watch.

Miss Emily W. Schoultz has removed from R.R. No. 1, Washago, Ont., to R.R. No. 1, Ridgeville, Ont.

The book on what to teach about the present war, which may be had from the office of THE SCHOOL, gives the diary of the war up to May 30th, 1916, as well as other valuable material which has been tested by actual classroom use. This volume may be had, postpaid, for 40 cents. Each number of THE SCHOOL this year will continue the diary, the history of the various campaigns and all information needed for teaching the subject.

Have you notified us of your change of address if you have taken a new position since June? We want this information, so that you will receive your magazine directly and promptly.

John A. Bell of Niagara Falls South has enlisted for overseas service.

Chas. D. Jones, formerly Principal of Crean Hill Mine Public School, is now with the Signal Section, 227th Battalion at Camp Borden.

Fergus, Sept. 3.—Mr. John Hogg Dick, Principal of Fergus Public School for the past twenty-four years, died very suddenly yesterday afternoon. He had been slightly indisposed during the week, but no serious result was anticipated. He was going upstairs in his house and had reached the top, when he collapsed and died instantly. Heart failure is given as the cause. He was in his sixty-sixth year, and had been a teacher for some forty-eight years. He was Secretary of South Wellington Teachers' Association. He was also a director of Fergus Horticultural Society, and for a number of years had acted as one of the town Auditors. He leaves a wife, but no family.—*The Toronto Globe*.

Miss Alma A. Van Velzer, has been appointed Principal of Flaxcombe Consolidated School, Flaxcombe, Sask.

Mrs. Laura E. Horne, B.A., has accepted a position on the staff of Uxbridge High School.

Miss Mildred C. McLaren, formerly of Gilford, is now teaching at RR. No. 1, Sarnia.

Miss Katie B. Gates has removed from S.S. No. 6, Richmond to S.S. No. 17, Ernestown, post-office, Odessa.

Miss Evalyn M. Stark is this year in charge of the Entrance class at Oil Springs, Ont.

Roy J. McMillan has removed from Mitchell to Kenora.

Miss Ila P. Dyment, formerly of Alma, Ont., is now teaching at R.R. No. 4, Brantford.

Miss Jennie Mills of Toronto has accepted a position at Niagara Falls South.

Miss Lulu M. McGinn, B.A., is now on the staff of Leamington High School.

H. G. Arnold, B.A., has accepted the principalship of Madoc High School.

Bruce D. Marwick, formerly Principal at Edy's Mills, is now Principal of Oil Springs Continuation School.

Miss Mabel G. Job is teaching this year at R.R. No. 2, Wellandport.

Miss Ethel L. Fothergill, formerly of Bothwell, is now teaching at Glencoe.

Miss Josephine Hoban of Petrolia is on the staff of Oil Springs Public School.

David M. Halpenny, formerly of Elgin School, Smith's Falls, is now Principal of Athens Public School.

Stanley S. Niebergall, formerly of Breslau, is teaching this year in S.S. No. 8, Wilmot, Petersburg, Ont.

During the year 1915 THE SCHOOL published four special war numbers, bringing the history of the European War up to date for that school term; in 1916, six war numbers were issued. These editions were so popular that they were soon exhausted and it was decided to print all of the material in one volume. This has been done and the book may be had from the office of THE SCHOOL for 40 cents, postpaid.

Miss Flossie Ouderkirk, formerly of Berwick, is now teaching at Rush Point, Ont.

Miss M. Helen Clowes has removed from Bremner, Alberta to Alix, Alberta.

H. W. Edwards, formerly of Magnetawan, is now Principal of Port Carling Public School.

Mrs. Russell Mitchell, formerly of R. R. No. 1, Troy, is teaching this year at R. R. No. 3, Scotland, Ont.

Miss Hally Johnston, B.A., of Glencoe High School, has accepted an appointment to the High School staff at Essex.

Miss C. Agnes Beamish has removed from R. R. No. 7, Chatham, to R. R. No. 2, Burford.

MESSRS. REEVES & SONS, LIMITED, Ashwin Street, Dalston Junction, London, N.E. (Eng.) have again this year kindly offered to supply the 96 prizes (colour boxes and boxes of crayons) for award in THE SCHOOL'S Art Competition, particulars of which will be found on pages XII and XIII of this issue. The students who were fortunate enough to win these prizes last year wrote this office that they were delighted with them. This year's winners will, no doubt, have the same experience.

Saskatchewan.

F. M. Quance, B.A., Principal of the High School at Battleford, has been appointed Inspector of Schools. For the present Mr. Quance's duties will be in connection with the Provincial Normal School, Regina.

J. H. McKechnie, M.A., Inspector of Schools at Wilkie, has been appointed Acting-Principal of the Normal School, Regina.

J. H. Gallaway, Principal of the High School at Indian Head, has been appointed Inspector of Schools at Wilkie.

One hundred and twenty-five teachers attended the special summer school courses held at the University in July.

W. Y. McLeish, formerly principal of the High School at Oxbow, has been appointed principal of the High School at Indian Head.

[An instalment of the Honour Roll is held over on account of lack of space.—Ed.]

New Brunswick.

The results of the Normal School Entrance Examinations for 1916 are as follows: Candidates admitted for Class I, 232; for Class II, 548; and for Class III, 62.

Of these 81 passed for Class I, 322 for Class II, 218 for Class III, while 221 failed. Many candidates, under age, write these examinations as a test of their knowledge.

F. A. Dixon, M.A., Acting Inspector in Inspectoral District No. 5, for the year 1915-6, has been appointed Science Instructor in the Provincial Normal School for 1916-17, in place of Major F. A. Good, absent on leave. S. A. Worrell, B.A., Principal of Victoria School, St. John, N.B., has been appointed Acting Inspector of District No. 5 for the year 1916-17.

The Matriculation and High School Leaving Examinations held at the same time, and places, as the Normal School Entrance Examinations resulted as follows:—160 candidates admitted for Matriculation and 27 for High School leaving. Of the Matriculants 19 passed in Division I; 78 in Division II; 29 in Division III; 29 in Division III conditionally, and five failed.

Of the Normal School Leaving candidates, one passed in the First; 17 in the Second, three in the Third, and six in the Third Division conditionally.

University of New Brunswick: Dr. W. L. McDonald, Professor of English and Modern History and Professor J. Stevens, Professor of Mechanical Engineering and Drawing and Lecturer on Astronomy, have been granted leave of absence, and have taken commissions in the C.E.F. C. E. Popplestone of Edmonton, Alberta; C. E. Aldrich of Cambridge, Mass.; and A. F. Baird, B.A. of Fredericton, have been added to the professorial staff of the University to fill vacancies caused by leaves of absence granted to professors.

The following have been appointed principals of the schools named: Geo. J. Marr, B.A., Grammar School, Woodstock; Miss Mildred E. Wallace, B.A., Consolidated School, Rothesay; Miss Isabel Thomas, B.A., Grammar School, Andover; L. R. Hetherington, M.A., Consolidated School, Riverside; Hugh C. Titus, B.A., Superior School, Milltown; Adrian B. Gilbert, B.A., High School, St. Stephen; Miss Ethel Thurrott, B.A., Superior School, Harcourt; Dyson W. Wallace, B.A., Grammar School, Fredericton Junction; A. W. Mersereau, B.A., Superior School, West Bathurst; W. T. Denham, B.A., Grammar School, Bathurst; Marianne G. Otty, B.A., Grammar School, Gagetown.

A. R. Stiles, B.A., L. A. Gilbert, B.A. and Miss Beatrice Jewett, B.A., have been appointed to the staffs of the schools in Moncton, Sussex, and Fredericton, respectively.

Alberta.

Plans are rapidly maturing for the opening of the new Provincial Institute of Technology in Calgary. The Principal, Dr. Jas. C. Miller, has been busy during the summer selecting his staff and has secured some excellent material. The following have been selected: G. R. Dolan, B.A., formerly Principal of the Calgary Collegiate will have charge of English and History in the new institution. Jas. Fowler, M.A., of the Crescent Heights Collegiate, Calgary, becomes head of the Science Department. Leo. E. Pearson, Camrose Normal School, Manual and Fine Arts; W. A. Davidson, M.Sc., Department of Mining; and C. A. Maus, B.Sc., Instructor in Motor Mechanics.

Quite a large number of Alberta teachers attended the Summer Schools in the East this year. R. H. Roberts, Miss Fisher and Miss McFarlane of the Calgary Normal School were at the University of Chicago. Miss Stewart of the Camrose Normal School was there also. E. G. Davis of Edmonton spent the summer at Chatauqua. Miss E. G. Glassford of Calgary, Miss Agnes Wilson of Edmonton, A. E. Hutton of Calgary Normal School, W. S. Potts of Glenmore, Miss Dyde, C. Sansom, G. F. L. Manning and G. F. McNally of the Camrose Normal School were at Columbia University.

Miss D. J. Dickie, M.A., of the Camrose Normal School, is spending the coming year in post-graduate study at Somerville College, Oxford. She will be absent until September, 1917. In the meantime her work in the Normal School is being cared for by Miss C. W. Dyde, B.A., of Edmonton.

Geo. O. Johnson, formerly Principal at Olds, has accepted the position of head of the Manual Arts Department in the Edmonton Schools. He will be succeeded in Olds by E. E. Mitchell, B.A., of Macleod.

G. W. Haverstock, B.A., formerly Principal of Schools at Hardisty, has resigned the position to engage in High School work in Edmonton.

R. W. Scott, B.A., formerly Principal of Schools at Stettler, has joined the staff of the Calgary schools, his place in Stettler being taken by J. G. Ferguson of Lethbridge.

The supply of teachers in Alberta is considerably less than the number required to fill the schools. It is feared that considerable difficulty will be experienced in keeping all the schools in operation during the winter. The withdrawal of several hundred men from the profession is chiefly responsible for the shortage.

The many friends of Inspector and Mrs. Fife of Edmonton will have learned with deep regret of the loss of their eldest son, Lieut. Gordon Stanley Fife of the Princess Pats. Lieut. Fife had a distinguished career as a student at Queen's University and later as a Rhodes Scholar at Oxford. At the time of joining the C.E.F. he was a member of the Department of History in the University of Alberta.

Miss Vera G. Cole, B.A., has resigned her position in Didsbury school and returned to New York. Next year she will be head of the Department of English in Peace College, Va.

Sergt.-Major Duke of the 1st Canadian Pioneers has been appointed to the staff of the Edmonton Technical School as Machine Shop Expert. He has recently returned from the front, having seen service both in the present war and the South African campaigns.

J. M. Hutchinson, B.A., has been appointed to the principalship of the Calgary Collegiate.

R. G. Powell of Taber began his work as assistant in science in the Camrose High School, September 5th.

The Minister of Education has just announced that in future the Special Course for British and American teachers will be held in connection with the Summer School and not at the Camrose Normal School, as formerly. This arrangement will greatly facilitate the training of these teachers since it will not break in on a term's work.

C. D. Flint, B.Sc., is the new Principal of Schools at Macleod.

G. K. Sheane, B.A., will have charge of the Schools at Carstairs next year.

The Alberta Summer School had a most successful session again this year. The attendance was the largest in the history of the school. A greater variety of work was offered and splendid results obtained. Dr. Jas. C. Miller again acted as Director with Chief Inspector Ross as Assistant Director.

Early in May the casualty lists contained the name of Fred. M. Gaine, B.A., killed in action. Mr. Gaine had been employed for some time in the Department of Education, Edmonton. His home was in New Zealand. At the time of his enlistment he was a lecturer in classics in the University of Manitoba.

J. V. Lynn, for many years head of the Manual Arts Department of the Calgary Schools, has retired and will spend the next year in advanced work in Stout Institute.

As a result of Mr. Pearson's retiring from the staff of the Camrose Normal School, certain readjustments of work have taken place. Gerald F. L. Manning becomes head of the Art Department; and F. S. Morrison of Calgary, becomes head of the Department of Manual Arts.

Enrolment at the Alberta Normal Schools is somewhat lighter than usual. This is accounted for by the heavy enlistment on the part of the men and increased opportunities for work for young women. About two hundred and twenty-five students are in attendance at the two schools.

News of the death from wounds of James McHutcheon, formerly Supervisor of Art Instruction in the Calgary Schools, has just been received.

One hundred and eighty-five men have been certificated by the Camrose Normal School since it began work. Of these graduates, sixty-five are known to be enrolled for overseas service. It is probable that not less than forty per cent of all the men who have left the school are now engaged in military duty. So far none of these men have either been seriously wounded or killed.

Quebec.

John S. Mills, B.A., London and National University of Ireland, formerly a teacher in Lower Canada College, Montreal, has received the appointment of Principal of St. Francis College High School, Richmond, in place of Stanley F. Kneeland, B.A., who has been appointed French specialist in Westmount schools.

The Rev. Dr. C. E. Amaron, formerly of St. John's Church, Quebec, has been appointed French master in the Boys' High School, Quebec; and the Rev. H. Dubois, formerly a teacher at St. Philippe de Chester, Arthabaska County, has been appointed French specialist for the schools in Sherbrooke.

The Summer School in Nature Study and Elementary Agriculture was held at Macdonald College from August 2nd to August 25th. There were thirty-two students in attendance and instruction was given by Dr. D. W. Hamilton, J. E. McOuat, B.S.A., A. Walker, and Miss E. Doane.

Sixty-five thousand children have been registered in Montreal schools this year. The Protestant Board of School Commissioners has 23,000 children registered, a number just double that of those enrolled in September ten years ago. The Protestant Board controls three high schools and thirty-three public schools this year, as compared with three high schools and fifteen public schools ten years ago.

One new school was opened under the Protestant Board, the terminal Park School in Longue Pointe Ward, with seating capacity for 100 pupils.

Two new principals have been appointed, D. A. Bates, B.A., and William R. Shanklin, B.A., to the Delorimier and Duke of Connaught schools respectively.

Two new schools are in process of construction and will be opened after Christmas. The Souart School for boys on Papineau Avenue will have a capacity of 1,000 pupils. A Catholic girls' school to seat a like number is being built on St. Andre Street, St. James Ward. There are approximately 42,000 pupils in the schools under the Catholic Board.

[Model School results are held over on account of lack of space.—Ed.]



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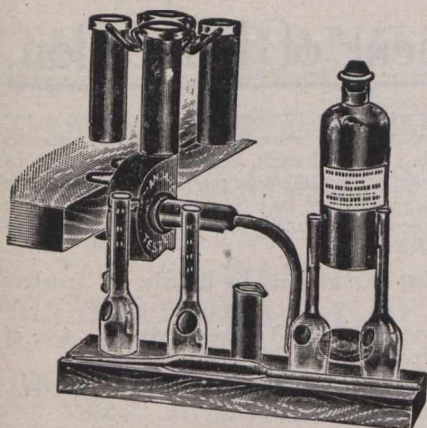
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The Minister of Education directs attention to the fact that, when some years ago the Ontario Teachers' School Manuals were first introduced, Boards of School Trustees were furnished with a copy of each, bound in paper, free of charge, to be placed in the School Library. For the same purpose, a copy of the "Golden Rule Books' Manual," was supplied free last September to all Public Schools, and the Manual entitled "Topics and Sub-Topics," has also been supplied free to schools where there are Fifth Forms.

In future, however, the Manuals must be purchased by Boards of Trustees and others as follows:—

(1) Paper bound copies of the following Ontario Teachers' Manuals, free of postage, from the Deputy Minister, Department of Education, Toronto.

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A discount of 20% off the prices of the Normal School Manuals and the Manuals listed under (2) above is allowed when the books are purchased from the publishers, express or postage charges being extra.

A copy of "The Syllabus of Physical Exercises for Public Schools" was presented to each School Library by the Executive Council, Strathcona Trust. If any school has not yet received a copy, application should be made to "The Secretary, Executive Council, Strathcona Trust, Ottawa," and not to this Department. The Syllabus may be obtained by others from the publishers, The Copp, Clark Co., Ltd., Toronto, 25c.

TORONTO, September, 1916.

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January.....	21	July.....	
February.....	21	August.....	
March.....	23	Sept. (H. Schools, 19) ...	20
April.....	14	October.....	22
May.....	22	November.....	22
June.....	21	December.....	16
	122	(High Schools, 79)	80
		Total.....	202
		Total, High Schools.....	201

DATES OF OPENING AND CLOSING

Open.....	3rd January	Close.....	20th April
Reopen.....	1st May	Close.....	29th June
Reopen.....	1st September	Close.....	22nd December
Reopen (H. Schools)	8th Sept.		

NOTE—Christmas and New Year's holidays (23rd December, 1916, to 2nd January, 1917, inclusive), Easter holidays (21st April to 30th April inclusive), Midsummer holidays [from 30th June to 31st August (for High Schools to 4th September), inclusive], all Saturdays and Local Municipal Holidays, Dominion or Provincial Public Fast or Thanksgiving Days, Labour Day [1st Monday (4th) of Sept.], Victoria Day, the anniversary of Queen Victoria's Birthday (Wed., 24th May), and the King's Birthday (Saturday, 3rd June), are holidays in the High, Continuation, Public and Separate Schools, and no other days can be deducted from the proper divisor except the days on which the Teachers' Institute is held. The above-named holidays are taken into account in this statement, so far as they apply to 1916, except any Public Fast or Thanksgiving Day, or Local Municipal holiday. Neither Arbor Day nor Empire Day is a holiday.

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Alg. & Geom. Trigonometry	Biology	Mineralogy	Mineralogy

Provision has been made for instruction: First—by Correspondence Work during the year. Second—by Summer Sessions. Holders of Faculty Entrance or equivalent Certificates may enter the second year. Study under the supervision of instructors should precede the Summer Session. Instruction in the subjects of the second year will be organized in October. Teachers residing in Toronto or vicinity should apply to the Extension Office regarding Special Classes which are to be conducted in these subjects throughout the winter.

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For further information apply to

DR. A. H. ABBOTT

Secretary, University Extension,
University of Toronto.

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University of Toronto Press

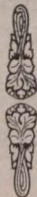
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(See opposite page for conditions).

For Public and Separate Schools.

	A. Forms I and II.	B. Forms III and IV.
NOV.	A charcoal drawing of a stalk of grain, grass or sedge.	A brush and ink drawing of fruit, or of a vegetable, including leafage and stem.
DEC.	A charcoal drawing of a simple landscape, including bare trees.	A brush and ink drawing of a fall or winter landscape in three tones of gray, and white.
JAN.	A coloured crayon design of a Christmas or New Year's card, lettered with simple capitals.	A water colour design of a New Year's calendar cover or of a Christmas programme cover with appropriate lettering in Roman capitals in black.
FEB.	A coloured crayon drawing of your most prized Christmas toy.	A pencil drawing of a boy or of a girl posed before the class.
MARCH	A design in charcoal or black crayon of a pattern of large and small spots (round or square) on a plain surface.	A pencil drawing of a dog, a cat, a rabbit, or a parrot, as posed in school or home.
APRIL	A design in charcoal or black crayon of a pattern of wide and narrow stripes on a plain surface.	A coloured crayon drawing of a small group of kitchen or garden utensils.
MAY	A coloured crayon illustration of the game you like best.	(1) A water colour drawing of a spring flower. (2) A conventionalized unit based upon the same flower and used in an all-over design.
JUNE	A coloured crayon drawing of some simple form of spring growth.	A landscape drawing or a window sketch in colour of a scene in which some person, animal or bird is the centre of interest.

CONDITIONS :

(1) The drawings must be sent fixed, flat, and with sufficient postage for return.

(2) Each drawing must have on the back the student's name, the name of the school and form, and the teacher's signature.

(3) The drawings must reach this office on or before the 5th of the month.

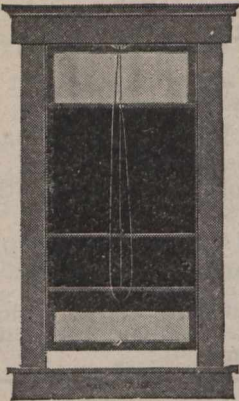
(4) The drawings must be original, and not copied, except where so specified for the Middle School. They must be of good size.

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For Collegiate Institutes, High and Continuation Schools.

	C. Lower School.	D. Middle School.
NOV.	A water-colour sketch of a spray of the daisy, clover, or golden rod, upon a graded background; or of a well-composed group consisting of a basket and fruit or vegetables.	A local autumn landscape in water colours or in coloured crayons.
DEC.	A poster, in black and white, or in colour, advertising some event of school interest. The lettering is to be in Gothic capitals.	A charcoal drawing from the cast of a hand or of a foot.
JAN.	A study in composition, colour, light and shade and perspective, as of a group consisting of an opaque jug, a transparent glass tumbler, upon an oblong tray.	A charcoal drawing of the human bust, from the cast or from life.
FEB.	A pencil drawing of an interesting street, an avenue or row of trees, or of an interior of a room or hall in home or school.	A pencil drawing of an <i>initial letter</i> and a tailpiece suitable for the decoration of an essay on the Christmas holidays.
MARCH	A design in colour, conventionalized from some native wild flower, and arranged with a geometric basis to make a curtain border.	A pencil copy of a piece of historic ornament, as a specimen of Saracenic interlacing wall ornament from the Alhambra; or a border based upon the Greek fret, or honeysuckle.
APRIL	A stencil design based upon some flower, fruit, or insect, and suitable for a wall-border in neutral tones or in colour.	A pencil copy of: (1) A Gothic mullioned window as seen in views of Melrose Abbey; or (2) A Greek fluted column with an Ionic capital.
MAY	A colour drawing from the living object, or from a mounted specimen of a robin, a bluejay, or a bluebird.	A cover design in colour suitable for a school magazine. The lettering is to be in Roman capitals.
JUNE	A water-colour sketch of some accessible bit of scenery in which a tree (apple, pine, elm, or poplar) is in the foreground with a building in the distance.	A water colour rendering of an interesting building in your neighbourhood, with its natural surroundings, <i>e.g.</i> , school, church, public library or home.

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