The School

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CONTRIBUTORS

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"Recti cultus pectora roborant"

Editorial Notes

Recent Legislation

The recent session of the Ontario Legislature has well maintained the record for progressive educational legislation set by the legislature last year. The chief lines of advance have concerned the enforcement of the Adolescent School Attendance Act, the reorganization of university finances and the reform of Secondary School courses.

Progress in all forms of training for occupation has been rapid in Ontario during the last decade. Rapidity in educational progress sometimes means much diversity and even lack of co-ordination. Under one of the changes of last session all training in occupations, whether in agriculture, commerce, the industries, or household science, is henceforth to be unified under the name of vocational training. This unity in name will be accompanied by a large measure of unity in organization and administration.

During the war, Ontario like all countries engaged in the struggle, fell behind in High School building. The increase in the cost of school buildings, and the enforcement of the Adolescent Attendance Act make it difficult to close up the gap. Recent legislation attempts to call the County to the help of the municipalities in the County. A County Council may now discontinue a High School district within the County and establish a new High School district to be comprised of the whole County. As the greater part of the revenue of a High School is derived from taxation over the High School district the significance of this amendment to the law is obvious. County Councils have long been required to meet the cost of the training of High and Continuation school pupils who are County pupils and do not live in the High School or Continuation School district. But this cost has always meant the annual cost of maintenance, and not the capital cost or outlay on buildings, grounds, and permanent improvements. An amendment to the School Acts now requires the Counties to bear a reasonable share—a share based upon the attendance of County pupils—of the capital cost. And this amendment applies not only to schools to be built and paid for in the future, but also to those erected in the past to the extent to which they are still unpaid for.

High Schools and Continuation Schools are public schools as much as are Public Schools themselves. All are the people's schools, and like all the schools of the people in Western Canada and in the United States, all should be free schools. Educational administrators in Ontario have assented to this principle for years, but have hesitated to apply it. Last year more than fifty per cent. of the High Schools and Continuation Schools of Ontario were fee-paying schools. The enforcement of parts of the Adolescent Attendance Act again brought the matter under review. Compulsory education up to 16 years of age means compulsory High and Continuation School education. But compulsory education must always be free. Convinced of this the Minister of Education induced the Legislature to act promptly. Henceforth, speaking in general terms, no fee shall be payable by pupils attending a High or Continuation School which they have a right to attend.

High School Courses of Study

The changes recently adopted in the Courses of Study and Examination requirements for Ontario Continuation Schools, High Schools and Collegiate Institutes offer generous scope to the energy and initiative of the local authorities, and particularly of high school principals and staffs, to whom local trustees will naturally look for expert advice and guidance in framing new courses adapted to the local needs of the community. Outlines of these courses, with the examination requirements for admission to Normal Schools and Model Schools, are contained in a recent circular issued by the Department of Education. The curriculum for Junior Matriculation will be issued early in September.

The details of the revised Courses of Study in Science and Mathematics and of the new course in Physiography will be announced to the schools about the middle of August. These courses were discussed in the Science Section of the Ontario Educational Association at its last meeting, and it is pretty generally understood that the course in Physiography will cover the present course in Physical Geography, together with most of the work now taken as Physics in the Lower School Elementary Science Course.

The Arithmetic of the Lower School will be approximately the same as the present course in Arithmetic for the Lower School Examination, and the amount of time required will probably be found to be one lesson period per day. The same is true of English Grammar. The Commercial and Map Geography is a one-year's course and should not require more than three lesson periods per week. Zoology, Botany and Art are one-year courses and each will require probably four or five lesson periods per week.

Under English, the Literature and Composition together should be taken every day for a full lesson period of not less than 40 to 45 minutes. Spelling and Grammar should be taken, in the main, incidentally, where Grammar is not taken as a separate subject for the Lower School Examination. On page 5 of *The Changes in the Course of Study and the Examination Requirements* will be found a note regarding the use of the present Ontario High School Reader.

The matter of working out details of the time-tables in accordance with the changes in the Regulations will be left very largely in the hands of the Principals, with the advice of the Inspectors. No hard and fast rules are likely to be made by the Officers of the Department, providing the spirit of the Regulations is carried out.

On "Getting in a Rut"

The teacher, especially the experienced teacher, has always to guard against the imminent danger of becoming mechanical, of "getting into the rut". The same danger besets, of course, any worker in any position, but its effects are less disastrous to those who work with *things* than to those whose concern is with *persons*.

Why do many teachers tend to become mechanical, to concern themselves only with "the boy, the book, and the examination", and to forget that education is something more and something higher than the continuous "working" of unending series of problems, and the unceasing memorizing of uncounted lists of names, places, kings, and battles? And why do teachers who have become, or are becoming, mechanical "just hate teaching?" There must be a reason—and there is.

Do you ever hear the mechanical teacher speak of the educational journals he reads, or the books on education he is studying, or the new methods he is considering, or the experiments he is trying?

An Inspector of Public Schools was asked the other day: "Have you plenty of good teachers?" Said he: "I have some good ones and some mechanical ones. Most of the good ones are taking summer courses—none of the mechanical ones are. The latter teach arithmetic well, they teach the spelling of lists of words well, but they do *not* give their pupils *power* and *initiative*". (The italics are the Inspector's; he spoke with vigorous emphasis).

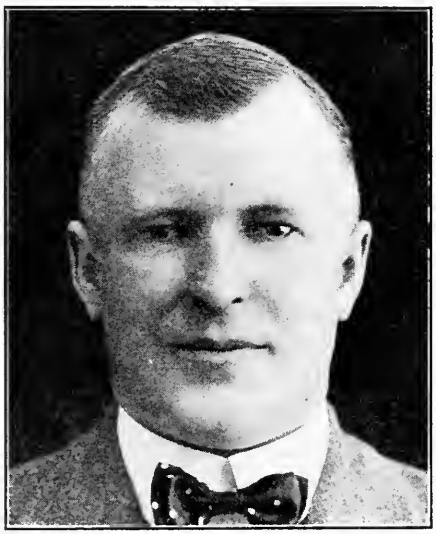
No successful man or woman in any walk of life can afford to cease to be a student. To read educational journals, to read books on education, to try new methods, and to investigate new devices, to take summer courses for improvement of academic standing—these are at least some of the indications that one is a really successful teacher.

And opportunities are multiplying yearly. Nearly all the Canadian Universities are offering extention courses. At the University of

Toronto, the Department of University Extension has been organized to assist teachers and others to secure the advantages of a university education. Its director was for many years a public school teacher and so is well versed in the problems teachers have to face. To any teacher who asks, advice is promptly and cheerfully furnished. Teachers who are not graduates will be interested in a teachers' course leading to the Bachelor of Arts degree. The Director of University Extension will be glad to give information.

Personal

A YEAR ago Mr. W. J. Dunlop, who had been business manager of THE SCHOOL from the first, and editor for the last eight years, was appointed to the Administrative Staff of the University of Toronto as Director of University Extension. Mr. Dunlop's experience has qualified him in an unusual degree to bring home to teachers and others the advantages and possibilities of university instruction. There are few phases of public school work with which Mr. Dunlop is not familiar. He was teacher and principal in an ungraded rural school, a continuation school, a large city public school, and in the practice school of a Normal School; he taught for years in the University Schools, and he lectured in a University Faculty of Education. All who know Mr. Dunlop will foresee for him an ever-widening sphere of usefulness in his new field of labour. But there will be one regret; the increasing responsibilities of his new position have now made it necessary for him to sever his official connection with this magazine. THE SCHOOL, whose prosperity in the past has owed much to Mr. Dunlop's wisdom and energy, is assured of his continued interest and support, and wishes and expects for him continued and renewed success in his chosen work.



W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

WHILE it is true that Nature Study contains subject-matter that belongs unquestionably to its own realm, and not to that of Agriculture, it is open to question whether any topic of Agriculture is not essentially a topic for Nature Study. At any rate these two subjects have so much in common both as to aim and subject-matter that, under the conditions existing in rural schools, they can be combined to advantage and treated as a single subject.

The chief aim of Nature Study is to so develop the pupil's capacity for observing with appreciation the objects and phenomena of his environment that a life-long interest in the world of nature may be secured. A similar aim should hold first place in the teaching of Agriculture. Here the imparting of information, important though it is, must be subordinated to stimulating the pupil's capacity for observation, and for drawing proper inferences from what he observes. The pupil's interest in the economic values of plants and animals may serve as the point of departure from which to develop an appreciation of the marvellous processes of life and growth, and of the interdependence of plant and animal forms. A glimpse into these secrets of nature tends to raise the ordinary operations and objects of the farm above the commonplace, and the broadened interest impells to the gaining of fuller knowledge of the economic, as well as of the nature, side of the problems.

There is then no good reason for keeping the economic phase of Agriculture prominent in the lessons. The old shepherd Michael was not the less attentive to his flock because his soul through contemplation had grown into harmony with his surroundings, until

> Those fields, those hills—what could they less?—had laid
> Strong hold on his affections, were to him
> A pleasurable feeling of blind love,
> The pleasure which there is in life itself.

It is hoped that from the series of articles which are to appear in this journal under the heading Agricultural Nature Study, the teachers may receive assistance in infusing the Nature Study spirit of investigation and thought into the lessons in Agriculture.

Weed Studies—Lesson Topics

1. *The Identification of Weeds.*—When an enemy has once been recognized we shall ever afterwards more readily detect his presence.

For helps see *Ontario Teachers' Nature Study Manual*, page 171. Write Department of Agriculture, Parliament Buildings, Toronto, for Bulletin No. 128, *Weeds of Ontario*. This is supplied free to teachers.

2. *Making Collections of Weeds and Weed Seeds.*—See *Nature Study Manual*, pages 39 and 166, also *Manual of Agriculture*, page 28.

3. Why are weeds difficult to remove from the land?

Outline of Lesson on Topic No. 3

Preparation and Materials:

(*a*) A mature specimen of lamb's quarters, pigweed, or hedge mustard, previously laid upon a sheet of paper until dry, is broken into pieces. The pieces are distributed among the pupils of the junior classes who rub out, count the seeds, and estimate the total number. This result is obtained before the lesson.

(*b*) Samples, one for each pupil, of the underground stems of couch grass, or perennial sow thistle.

(*c*) The well-developed root of wild chicory, curled dock, or dandelion, and also a specimen of one of these plants that had been cut through the crown, thus causing several plants to shoot out. Such a specimen may usually be found in any yard where these plants grow.

Lesson.—Discuss with the pupils the great number of seeds produced by certain plants as shown by (*a*).

A few of the more important properties of certain weed seeds may be taken up at this point, such as, (1) their power to mature even if the plants are cut when in flower, as in the case of purselain and common wild mustard (try experiments); (2) the property of retaining vitality when buried by the plough, and of germinating years afterward when brought up to the surface, This is notably true of ox-eye daisy, wild mustard, and wild oat.

The pupils are now prepared to suggest means of preventing the increase of weeds through the action of seeds. Distribute the specimens of underground stems.

Pupils will observe the distinction between the underground stems and the roots; *e.g.*, the former are larger, white, have joints called nodes with small scales, which are really minute leaves, and in some cases buds or shoots at the nodes. From the last point the possibility of the production from a single stem of numerous new plants is inferred.

These plants carry on a system of underground warfare and, as with other underground fighters, their air supply is their chief point of weakness. If the green shoots are destroyed, very soon after they get up into the air, by hoeing or other mode of cultivation, the vitality of the forces under the ground will be rapidly exhausted. Since a single weed

may be the beginning of hosts of plants that will invade the soil for years pu pils will see readily the necessity of destroying weeds.

The large root of the wild chicory or dock is described by the pupils and compared with the roots of grass, carrot, and turnip. Give the name tap root. Comparison with the last two will lead to the inference that there is a large food supply. The plant with the several new shoots will reveal one of the uses of this food supply. In spudding roots of this class where should they be cut? Try experiments in the school yard.

Types of Weeds.—Those made troublesome by their seeds, those made troublesome by underground stems, those made troublesome by tap roots.

Field Exercises for the Pupils

1. Who can bring to school the weed with the largest crop of seeds?
2. Find out to which one of the three types each of the five most troublesome weeds on your farm belong.
3. Find weeds that belong to more than one type.

Lesson Plan for the Study of the Sweet Pea

Materials.—A bouquet of sweet peas of various colours, a ripening flower and a fresh blossom for each pupil, also a bit of stem with leaves and tendrils for each pupil.

Teacher's Aim.—To enlarge the pupils' capacity for enjoying plant life, (*a*) by improving their ability to observe and interpret, (*b*) by leading them to better understand the meaning of plant forms.

Introductory Discussion.—The attention of the pupils is directed to the bouquet, and a conversation between pupils and teacher takes place on such points as the name of the flower, those who grow them in their gardens, the variety of colours, the perfume, length and grace of flower stalks, resemblance of the corolla to a butterfly. While the pea permits us to enjoy these beautiful features it has a secret purpose in all this display. Can any one guess the secret?

Pupils' Aim.—To discover the secret of the sweet pea flower.

Field Exercises.—(*to be assigned after lesson*).—Find other plants whose flowers are shaped somewhat like a butterfly, and whose dust cases are grouped somewhat like those of the sweet pea. The teacher may correlate this with literature and with composition by telling a story, and by asking the pupils to reproduce the story, orally or in writing.

MATTER	METHOD
The seed is necessary for the plant's life.	From what does the plant grow? If no seed were formed would there be any more sweet pea plants and flowers? Monitors distribute ripened flowers. Pupils are asked to find the pods and seeds, and to describe their position in the flower.
The pod is found in the fresh flower. Its tip turns sharply up, and has a sticky point. This point we shall call the brush or stigma.	Monitors distribute the fresh blooms. The teacher impresses the importance of not picking them to pieces, and asks pupils to find the seed pods. What is the outer tip of the pod like? (The name stigma may be omitted.) Let us next find out what there is to stick to this brush, and how it gets near it.
A fine dust comes from ten little cases, each held up by a little stalk. This dust sticks to insects and is rubbed off upon the stigmas of other flowers.	What creatures visit flowers? What do they seek? Do you find anything sticking to your finger tips that might stick to the insects? Find out what this dust comes from. How many dust boxes are there? Of what advantage is it for them to be on the little stalks? How are they grouped? Is the brush in a good position for rubbing the dust from the insect's body? The teacher explains in as simple a way as possible that this dust must reach the tip or brush to cause seeds to form.
The secret—the colour, perfume, form, nectar, and dust are for the purpose of causing seeds that new plants may grow.	How many things are there about the flower to coax insects, or to help them to find the flowers? Pupils will note colour, size, number of petals, and perfume. These are the things that caused us to admire the flower, but what is the secret use the flower has for them?

To the Teacher.—Technical terms must be used with care in Nature Study. Note that in this lesson corolla and petals are the only ones used. Common words, when suitable, may be used at first, and the botanical names gradually introduced. In case the lesson is not too long a study of stems and leaves may also be taken, attention being given to such features as the slender stem, the necessity for support, and the tendrils as modified leaves or leaf parts. The pupils can discover this last point by comparing the positions, divisions, etc., of the tendrils with those of leaves.

On Getting in a Rut

A. M. OVERHOLT, M.A.
Principal, Brantford Collegiate Institute

NO generalization can be made about things educational—except that a generalization cannot be made. It would, however, appear fairly safe at a venture to say that all men in all occupations dread the human tendency to fall into the habit of doing a thing in the same old way, day in and day out, year in and year out—the spectre of falling into a rut.

Perhaps the teacher comes in for sharper criticism for stale methods than any other man in a community. Those all-round gentlemen who rush into print in the daily papers and tell what they would do if they were the Provincial Secretary, or the Minister of Justice, or the Minister of Education, rise to the highest high-water mark when they get at the problems of education. With a training quite as good as most professional men, with an accuracy of information above any perhaps, and an intellectual horizon wider than most men in the community, the teacher yet receives scant praise, if any, and a certain amount of abuse.

Teachers as a class, I believe, are men who pay their debts, keep out of the police court, out of the bankruptcy courts, lead quiet lives, read a great deal, though not enough, are on a par intellectually with lawyers, doctors and preachers, and men in big business, yet draw small salaries for being all that—in this last respect they are about on a par with the firemen, the policemen and the city assessor. Scarcely any teacher has a Ford. Though there are many opportunities for the teachers to meet men on an equal footing, the teacher does not meet them. Stephen McKenna, in his book *Sonia*, says: "I am tempted to wonder whether it matters what a man be taught so long as he meets enough men who have been taught something else", and surely the one of whom that sentence was written profitted by his experience with men in vocations other than the one in which he himself was employed. And H. Annesley Vachell, who wrote of school boys and schoolmasters in almost all of his novels, puts these words in the mouth of Margot in *Fishpingle*: "I dislike schoolmasters. I regard them as necessary evils like inspectors of nuisances. They ought never to be seen in society. I always behold them cane in hand, hectoring and lecturing. Enough of your Professor Moxon"; and yet Moxon was an excellent type of scholar and gentleman. "Like Inspectors of nuisances" indeed!

Too many of us have fallen into the rut of thinking that the only

sphere of activity with which we should concern ourselves is the schoolroom or school boys and girls and these alone. I do not mean that a schoolmaster shall belong to the country club, the bowling club, the curling club, the neighbourhood bridge club, that he shall be choirmaster, or superintendent of the Sunday School, the Worshipful Master of the Masonic Lodge, the secretary of the Library Board, a patron of the horticultural society, president of the Y.M.C.A., or the boosters club, or the Board of Trade, etc., but I do believe that he should, with certain limitations, "take hold" of some of these and "help shove". Not that he shall be a "jiner", but a useful citizen, if the proper opportunity presents itself.

Too few of us know anything of the industrial life of the towns and cities in which we live, though they may be purely commercial and industrial cities as is the one from which I come. We ought, as headmasters, to know personally at least the heads of the industrial concerns, as well as the managers of the banks and retail stores of our cities. Why? For many very good reasons. They are mighty alert men, mighty fine men, they widen our horizon, see things concretely when we know them theoretically. We may *e.g.* check up our knowledge of electrolysis by observing their methods on a large scale. Headmasters of High Schools are, to a greater or less extent, heads of employment bureaus, particularly in relation to our commercial departments. I have recently urged girls who have matriculation standing, *e.g.*, to take Part I Faculty and stenography, or stenography and typewriting, for I know students so equipped make the very best sort of office help, and I know that men in our city are beginning to ask for that kind of pupil, and are giving them wages in advance of others of an inferior type. We can easily observe, by making tours of machine shops and factories, the type of boy that is best fitted for these places, and can then select those with the proper mechanical skill. It is a good practice to get reports on the work of these boys, purely confidential reports, to check up your opinion of them, which may be used for future reference in training boys. I am merely suggesting one method by which we may extricate ourselves from ruts.

But what of the ruts into which a teacher, a gifted teacher, may fall in the domain of his own particular work in the schoolroom or in his relation to school activities. And let me say right here that there is such a thing as a school in which the "activities" are altogether too active for the good of that school. There is such a thing as too much football, too much hockey, too much dramatic club, too many "Form dances", and Athletic Union dances, and too few meetings of the Literary Society or the Debating Club. When, at our Commencement Exercises, the girl that wins the First Carter and a general proficiency scholarship,

receives her diploma and a smile from the headmaster, while the football hero has a rousing reception, I am always reminded of the first question in the Catechism: "What is the chief end of man?" I wonder whether the chief end is the head or the heels. It is well to remember that it is the top end with which we are most concerned, and that in the long run a school is known for its organization, its discipline and its scholarship. In the last analysis Johnny is sent to school to get his Matriculation. And yet there is another side to the matter. Teachers should be interested in all phases of community and school life, and the member of the staff who habitually shirks his plain duty to his form, his school or the community, is in a rut and ought to get out of it.

The popularity of the High School course in the mind of the public is not less than it ever was, even though technical and industrial education have entered the field with a strong bid for attendance. Pupils come to our secondary schools in greater and greater numbers from all classes, and I believe that the demand among manufacturers and business men is for High School boys and girls trained in the general course. The boy with matriculation standing seems to be the type they most desire, and of whom they are able to make most use in the machine shop and at the drawing board. It is our duty then to see that we do the best we can with our pupils even though they may not be going into professions. The man that has lost heart in his teaching, has given up decent preparation of his lessons, and has ceased to think of his profession as anything but a perfunctory performance through which he draws his stipulated salary, should get out and stay out.

And what of the teacher who does not read? Of all the people in the teaching profession in a rut I think he is most to be pitied. There is no reason that I can see why any teacher should not read from two to four hours a day at least. Within the last few years I have had the pleasure of attending two National Conventions of Teachers in the United States, and of observing the class-room work in American High Schools. It does appear to me that American teachers are much more alert than we are with regard to new methods and the Science of Education. They look upon their profession in a much more serious way than we appear to do. While they do not, I believe, get as much work out of their pupils, I think they can present their lessons in a very up-to-date fashion that shows careful preparation and rather good reading along teaching lines. Much scope is given in the United States for the writing of text-books, and I imagine that the desire to publish leads to the habit of reading with two things in mind, the evolution of a text-book and the improvement of the teacher's own preparation and presentation of subject matter. One very successful writer of text-books told me that he had taught for more than five years the subject matter of one of his

books before he gave it to the publishers. No wonder it was a success; 20,000 copies of it were sold in Detroit alone in one year.

There is, too, the habit of reading not for profit or professional culture, but for pure pleasure. The man in business, or in a profession, with this habit is far richer mentally than the one without it and is less inclined to become narrow in his thinking and to fall into a rut. Before the end of life, too, there comes to some at least a time of leisure when for a brief space it is given them to enjoy in some fashion the fruit of their labour, the closer companionship of old friends, and the solace of good books. The Right Hon. Arthur J. Balfour once said: "I am deliberately of opinion that it is the *pleasures*, and not the profits spiritual or temporal, of literature that most require to be preached in the ears of the ordinary reader. I hold that all such pleasures minister to the development of much that is best in man, mental and moral". Have we, as teachers, fallen to a greater or less degree into the rut of not reading for either profit or pleasure?

And finally I believe the problem for the school to-day to solve is that of getting a closer connection between the home and the school. That little book by Angelo Patri on *A Schoolmaster of the Great City* is more than a delightful evening's reading; it is a practical treatise on the mutual benefits to be derived from the close working out of social problems by the school and the home acting together. Some of us, to the surprise of our school boards and parents, perhaps, do in school hours invite good singers, good speakers, first-class newspaper men, and preachers to furnish pleasant and very profitable entertainment to our students in our assembly halls. Amateur theatricals by students, if well done and not too often doné, create interest. The best thing that can be said of our domestic science and manual training is that it takes the school into the home and creates an interest for the school on the part of parents in the home. The teacher must go to market with his children. The teacher must bring into the school the artist, the musician, the singer, the picture man, the story teller, and the preacher, whenever their ability is outstanding and worth while. The opportunities for so doing even in a small city are greater than you might at first suspect. If a good speaker comes to town for the Canadian Club get him. Dr. Macdonald gave one of the most inspiring addresses to the students in my school I have ever heard him give, and so did Mr. Stewart Lyon and Dr. Michael Clarke. Mr. Harold Jarvis charmed them in song, as did Harry Lauder, in London Collegiate a few years ago. Link up the school with the city and the city will support the school. Windsor has an excellent idea. They have made their fine new assembly hall with an entrance from the street, yet the building is a part of the school. At any time the people may use the hall for any proper purpose. It is

only a short step from the assembly hall to active interest in the school as a social centre. Let us lift ourselves out of cold isolation and come into closer and more vital contact with our citizens, and let our pupils see that we have interests that extend beyond the confines of our class-rooms, even to the homes of their own folk.

Seat Work

M. ISABEL WILSON
Ryerson Public School, Toronto

THE most important thing in the education of the young child is sense-training. His mind is like a fallow field waiting for any seed that may be sown therein. The harvest is always sure. Obviously, it is in the early years of a child's life that he should be taught the things that count most in his mental development to see, to think, and to do.

Too much emphasis cannot be placed upon expression. The person who cannot express himself is never more than half educated, no matter how much he may know.

This being the case, the use of educative seat work in school has become an indispensable factor in true primary education. It provides the pupil with vital instruction without conscious study. Hence, primary seat work should be as carefully "*planned*" as are the regular studies.

There are certain things which every child should know. These are numbers, letters, names, colours, telling time, direction, etc., and they should be employed in some form for drill in the seat work period.

The work at first should be of the simplest character and should gradually increase in difficulty. But in no case should the work be beyond the mental grasp of the average child or lack sufficient variety to hold the attention of the entire class. After the seat work period the work should be inspected by the teacher and the children carefully instructed how to improve it. It is good policy for the teacher to increase gradually the use of the blackboard.

Time spent in correcting seat work in the first month is time gained. The children should be taught the best, neatest, and most correct method of doing work.

Seat work may be given before a lesson as a preparatory stage of a lesson or it may be given after a lesson to emphasize and make clear the point or points taught. With very young children the latter method is used more extensively.

The following suggestions have been found helpful with a class of beginners:

1. With one-inch sticks make a square, a triangle, a star, a rectangle and place a number ticket beside each thus □ 4, △ 3, etc. Use other things in making the shape, *e.g.*, cut grass in one-inch or two-inch lengths, or cut string or cut paper strips. The cutting of these in exact lengths is an excellent exercise and requires discrimination and thought on the part of the child.

2. Copy simple border designs with sticks, such as a repetition of the capital printed letters *T* or *Z* or *O* or *M*, etc., enclosing them in an outline made with longer sticks. These letters are chosen first because simple and there is a gradual increase in the number of sticks used, 2 for T, 3 for Z, 4 for O and M.

3. Make a border of trees, a border of squares, and triangles, a border of stars and crosses. These can be made more difficult by combining but always begin with simple work in stick-laying.

4. With sticks, lay a house, a swing, a fence, a gate, a pie, Humpty Dumpty's Wall, Jack and Jill's pail, a hill, a tent, the numbers, etc.

5. Use pegs to make a line as long as your longest finger. Make a line as long as a given string or ribbon. The idea of measuring is of great importance in the early stages of number work, and this seat work helps the child to grasp ideas by actually doing the measuring and by comparing with a standard (the ribbon, string or finger).

6. Sort pegs according to colour, all the red ones together, all the yellow, etc.

7. Lay a horizontal line of red, a vertical line of blue, a slanting line of orange. At first do not use the terms vertical and horizontal but introduce them gradually later. To help in this the teacher draws these lines in coloured chalk on the board and calls them the *across line* or *the line that lies down* for horizontal and the *up and down* or the *standing line* for vertical.

8. With the pegs make a row of green squares, a row of blue triangles or a row of yellow oblongs.

9. Have the children fold a square of coloured paper into 16 small squares. Let them cut along the lines and arrange according to simple designs. Oblongs and triangles may be used in the same way. To cut circles let them trace around the paper tops of milk bottles, around coppers or plates belonging to a doll's set of dishes.

10. Furnish the little beginners with pieces of tissue paper and simple pictures to trace. This work teaches them the use of their hands and helps in the co-ordination of the muscles. Old dress patterns cut up, or wrappings off parcels supply the tissue paper.

11. Give a child a number card and allow him to collect from home

or from the room articles to be placed on his desk. If the card has 4 on it or the picture for 4, let him bring 4 nuts, 4 seeds, 4 flowers, etc.

12. Place on a table a number of articles and have the children place a number ticket beside it, *e.g.*, place 2 seeds, 5 nuts, 4 marbles on the table or desk. The child selects his number tickets 2, 5 and 4 and places them on the table beside the seeds, nuts or marbles. He has counted the seeds, nuts or marbles, selected the number ticket to go with it and placed it beside the right articles. Is this not educative seat-work?

13. Place the following on the board, 6, 2, 4, 5, and ask the child to select from his domino cards or picture cards the right one to match the number on the board.

14. Have a set of cards with easy words written on. Have another set with the same words printed on. Match the two sets. These cards may be made from old boxes, pad backs, package holders, etc.

15. As they learn the words in a rhyme they can use these cards for a sentence or a line of the rhyme. Gradually, as they become more expert they can arrange the whole rhyme in print on one side of the desk and script on the other side.

16. Pictures for certain words may make up another set to be matched.

17. Have the child make necklaces of seeds or nuts. Last year we made a chain of horse chestnuts, stringing them according to the figures written on the board. Between each we put a piece of paper or a seed of another kind. Thus these numbers were placed on the board 2, 4, 3, 5, 2, 1, 4, 2, 5. The string of horse chestnuts contained 2 nuts, then a piece of coloured paper, 4 nuts, paper, 3 nuts, paper, and so on to the end. We also made a string of clover heads with leaves between. Chains showing arrangement and repetition as 2, 4; 2, 4, etc., were made also.

18. With a pattern of a hen we cut out little red hens and pasted them on a card according to numbers given on the board. One day we placed 3 hens which were eating, another 4 hens walking, etc. (The patternsn were made by tracing the pictures in the Reader. Other animals may be used similarly.)

19. Illustrating words. Begin with easy words known, *e.g.*, red hen, grain of wheat, pig, wall, pail, pie. If this work is taken in the following order there is a gradual development of skill in the child's work. (1) Have patterns of animals or toys. Allow children to trace and cut them out. (2) Have them cut out the same things free hand but watching the pattern. (3) Let them draw the article, having the pattern to guide. (4) Cut or draw without a guide.

20. Write a letter on the board and have the children write words:

(1) Beginning with the same letter. (2) Words of the same family. (3) The next word beginning with the last letter of the word before.

Cat	Cat	Cat
call	bat	tam
can	rat	man
cab	sat	Ned

21. Write a list of words, such as hat, bit, that are not on the board. Have the children write them, adding an *e* to each.

22. Children like to make lists. These are some they can make.

(1) Animals that walk, fly or swim.

(2) Animals that have 4 feet or 2 feet.

(3) Fruits that grow on trees, bushes or vines.

(4) Things that have wheels.

(5) Things you do in summer, in winter.

(6) Things that are red, blue, etc., in colour.

(7) Things I want. (8) Things I own.

(9) Things I can buy in a grocery store.

(10) The colours of roses.

23. Questions may be given:

(1) What things can a bee do?

(2) What animals sleep all winter? (Snake, woodchuck, bear, frog.)

(3) What animals like corn?

Many other forms of seat-work may be given. The above are only a few of the great variety that might be suggested.

Problems in Primary Rooms

(One problem each month will be presented. Teachers are invited to send problems or histories, such as the one given, to the Primary Department of THE SCHOOL.)

Mark.—Reading, phonics and number Mark did not like. They passed over him as water off a duck's back. He was simply not interested. His teacher was resourceful. She tried every device and method of attack, but apparently Mark would have none of it. With handwork he was expert, he loved the sand table and the blocks. The story time to him was a joy. He liked school and would not stay away even when his parents wished him to. The teacher, after careful attention, decided that Mark needed time to grow, so right there she helped him with kindergarten material; of course, at the end of the term Mark was left behind. But next year Mark was ready for phonics, reading and number. He could not get enough of them. He easily kept first place and passed on from grade to grade. His teacher watched his career.

He was always first and now in High School it is just the same. Had she forced him to take the work for which he was *mentally* not ready, would the result have been the same?

Hints and Helps

1. "Good teaching relates everything and makes it possible for the children to see new relations between the new and the old. . . . It is careful fitting of new thoughts to old experiences. . . ."—McMurry.

2. A Rest Exercise.—The children say in concert:

Who is as happy as the clock
When he is singing tick tick tock?
If you're very still, my dear,
Soon the ticking you can hear.

The first child to hear the clock puts his head on the desk. The others follow. The room becomes very still, and all are rested.

3. Number Race.—Draw a horizontal line the length of the board. Draw vertical lines across it. In the middle put a longer line. Place a pupil at each end and call out numbers at random. The numbers are placed in the upper spaces. At the word "go" we add a number to these numbers. If we need a drill on 2 we add 2 to each. Each contestant (one at each end) adds 2 mentally and writes the sum in the lower space. The one reaching the long middle line first is declared the winner. The next pair of contestants may add another number or subtract. (In higher grades multiplication may be used.) We vary this by adding a different number to each number in the upper spaces.

We sometimes play there is a fire and the numbers are horses in the stalls. For speed work this is a good device. Sometimes we call them bins in a cellar, or boxes in a store-room.

The Project in Elementary Grades*

MISS GERTRUDE JACKSON
Junior Inspector of Schools, Calgary, Alberta

THE project method is not a new thing; rather it is the adaptation of old methods to modern psychology and the trend of twentieth century living.

In the last year or two the word *project* has become very familiar. It occupies a conspicuous place in every school magazine; there have been over forty books written on this method alone in the last eighteen

*An address delivered before the Junior Section of the Alberta Educational Association in Edmonton, March, 1921.

months. Every teacher has at least a vague comprehension of what it means, and is using it more or less in her work. The majority have used it for some time, though they had no particular name for it, and it is possible that they groped blindly in their application of it. A study of the possibilities behind this unimposing little word will richly repay any one interested in child development and education.

It must be constantly kept in mind that the project does not imply any tendency toward fads, nor any neglect of the fundamental groundwork of our educational system. Properly used, it stands for more intelligent study of these essentials, with much more effective results; consequently one must weigh the educational value of a project before undertaking it.

The value lies not in the mere activity itself, but in the mental growth involved. A grade II class may make a small book. If the material is all cut and marked ready for use, and the cover design planned by the teacher and copied by the children, there is a minimum of educational value, which is chiefly manual training rather than mental. But if the children measure the paper, discuss the folding and sewing of the pages of a book, and actually plan, cut, and sew together by the printer's method, two sections of an octavo edition; if book cover design is studied from real models, and the decorations on the books are the expression of the children's individual ideas, under skilful guidance; and if the book is made for some purpose previously decided upon by the class, this activity takes on the qualities of a project, and it is unnecessary to explain in detail the increase in value. Possibly the books will not be as artistic as if they were all uniform and made by pattern, but the finished product is the last thing by which we measure the worth of a project. We measure instead the class interest, their concentration, the language, training, the information gained, the purpose behind the activity, and the power of growth involved. Let me illustrate what I mean by growth.

Several days after the book making, a pupil comes to school bringing a small book he has made at home. It is different from the one made in the lesson, for he has experimented with one of the ideas we discussed in class, and has folded his sections into the folds necessary for a quarto edition, rather than the octavo which we used. No matter how rough the book might be, here is an example of true growth. The activity has been whole-hearted enough that it has become a real interest, and as such continues after the lesson. You will readily see that results such as this are not easy to measure, so we consider instead, the strength of the activity which gave rise to them, just as we estimate the location of a moving train at a given time, by its rate of speed. In order to enable us to do this we must know what qualities belong to a project.

There have been many interpretations of the concept behind this word, but they agree in four particulars. A true project must have action, mental, or mental and physical; it is guided to a definite end by some purpose; it is undertaken whole-heartedly; and its activity must be as nearly as possible the type of activity that is found in life.

In elementary rooms the action is always of the second type, involving both mental and manual work, as the interest span for purely mental work in these grades is extremely limited. The younger the child the more he must express his new-found ideas through manual or physical activity. A project in Grade VIII is often entirely mental, but in primary rooms there is need of concrete material. If we take a primary hygiene project we not only talk and think health habits, but we do something as well. We employ scissors, paste, magazines, poster paper, etc., and the manual expression of the ideas adds to their clearness, tending to strengthen the attention of the child during the lesson period, and awaken new individual interests along the same line.

To guide this action so that it is not lost among too many bypaths, there is the purpose. If I go for a walk with no definite aim I wander responsive to every whim; but if I walk to the station to catch a train my route is guided by the end in view, and I do not waste precious time in wandering into attractive paths which are not leading me directly to my destination. So the purpose of a project guides it to its preconceived end. But there is a difference between the purpose of the child and that of the teacher.

If we take a sand-table project of Indian life, the child's purpose is to create a representation of his ideas of an Indian camp, and to learn to do whatever is necessary for this; the teacher's aim includes this, but is broader. She purposes to impart, or to lead the child to deduce, the requisite body of ideas; to lead him to judge, to select and reject; to increase his manual dexterity, to enrich his vocabulary; but, above all, she aims at awakening an interest that will grow into other channels.

The growth, which, in point of educational value, is worth more than the actual information contained in the lesson, is dependent upon the third quality of a project, that is wholeheartedness. This is the motive power of the train of ideas, and according to its strength there will be more or less momentum to carry on the thought after the lesson. So, too, the psychological value of the activity varies according to the wholeheartedness of the class.

In the past we have had a tendency to make school a thing apart from life. We seemed unable to bridge effectively the chasm between book knowledge and life. We are taking a long stride toward this end when we make the whole-hearted purposeful act the basis of our teaching.

This brings the socialized recitation to us, even in the primary rooms.

But while this transfers some of the responsibility to the shoulders of the children themselves yet the elementary teacher is busier than ever. She keeps her hand upon the helm at all times. She finds and uses inherent interests, and plans for the foundation of past experiences. She emphasizes the *use* of objects and activities, and motivates the work, always with an eye to future self-motivation on the part of her pupils. She brings within the child's reach convenient material for educational activity—books, magazines, constructive material, museums, factories, the world of nature. She inspires, encourages, and awakens in every child the desire to do something.

The range of possible projects is so large that it is difficult to choose. Almost every subject on the elementary curriculum permits of project handling in some or all of its phases. There is, however, a limit to the use of this method. Drill lessons do not lend themselves readily to it as they are habit-forming rather than problematic. In experimenting, it is wise to choose a project which allows for the twofold activity, and which permits correlation of several subjects. If we read the Alberta Course of Studies we find a mine of ideas. You will notice under Manual Arts, Grade III and IV, the Department Store is mentioned as a project. The actual value of the manual work in this is small, but the correlation of arithmetic and language opens a valuable field. Think how easily children might learn to change money, to measure profit and loss, to use simple fractions, to think in terms of pint, quart, inch, foot, yard, etc.

There are many ways of carrying out this project. In one Grade IV, where the results were particularly satisfactory, the children made a two-storey building of boxes, the lower floor being devoted to hardware and groceries, and the upper to millinery and ready-to-wear. A company of five owners was chosen and the class voted them two thousand dollars for stock. All money was made of a special quality of paper unobtainable by any except the two who were chosen as money-printers. This led to an interesting discussion of paper money.

The children made articles at home or at school in their free period; these were sold to the company. The money received provided funds for future buying at the store. Every pupil kept an account of his transactions, and at the end of each week the pupil who had the greatest profit on his buying and selling was elected business manager of the store for the following week. Positions in the store were eagerly coveted as the salaries were high. The necessity for speed and accuracy in figuring in order to qualify for clerks lent a wholesome motivation to the drill arithmetic.

Very little school time was taken for the manual side of this project. Posters for advertising were made in the art lesson, and the best were bought by the store company. Problems from the store transactions

were part of the arithmetic lessons. The language period was used for discussions, which were decidedly good.

It would be impossible to take time to describe all the avenues into which this project might turn, according to the variety of purposes behind the activity. But to illustrate how interests widen and grow we might consider for a moment one subject that came up in the discussion periods. Some of the boys who needed money made some articles for the store and sold them to the company. They complained bitterly of the low prices paid for these, especially when they discovered later that the store was retailing them at twice the amount. The company defended itself vigorously, and a heated discussion followed on the situation. The question of the monopoly of trade, and the need for competition was intensely interesting to the boys, and the result of the discussion was that half the class withdrew from the store and incorporated a company for a store of their own. Needless to say, trading took on a new lease of life.

English profits more than any other subject by the project method for it has a place in every activity undertaken. We must have ideas before we can impart them, so why not projects to precede and accompany oral composition? A whole-hearted interest plus plenty of ideas is the shortest route to good oral and written language. Dramatization, picture books, transcription books, reading cards, etc., are all within the reach of elementary project work.

History is overflowing with material. There are the little people of other lands who stretch appealing hands to all small children. Short diaries of the past, original plays, oral autobiographies, representation of scenes and plays, such as a Japanese garden, an Eskimo scene, the home of Laura Secord—there is so much of it that the years are all too short.

Nature Study is generous, too. There is germination of animal and plant life which is interesting to children. Raising silkworms is comparatively easy in the class-room. This study permits of a many-sided correlation, for you have not only nature, but the adaptation of natural products to commercial uses, and from the abundance of the material one can select the right type for any grade. There are, too, out-of-door trips—always with a purpose, of course—weather charts, bird books, flower and plant and seed collections, etc.

Geography suggests immediately the sand table, plasticine, clay and other modelling materials. Picture study, travel trips, and outdoor lessons are fruitful material here, too. Art and Manual Arts stand ready to serve in each and every project. Hygiene offers as yet unexplored territory in this work. But the essentials are the same, no matter which subject looms largest—purposeful activity, correlation, growth.

There are reefs to be avoided in this method as in all others. The children must not be kept in the same environment too long; there must be sufficient unknown material in the lesson; and the material must not be too difficult. The insufficiency of unknown material is often due to the overlapping of subject matter in the grades. If we study Chinese child life in Grade II we must be sure that our lesson is not simply a review of the material the children have had in Grade I. It must be a step in advance, in both content and the difficulty of the work undertaken. Otherwise there is no progress.

The project method is influencing very materially the Manual Arts in the elementary grades. Manual Arts are giving way to Industrial Arts, and the word *industrial* itself suggests the change. The manual work becomes not an end in itself, but a means to a more important end. The programme of Industrial Arts is slowly being formulated so that, project-like, it will bring the school into closer touch with life, and so that its place on the curriculum will be vindicated by its usefulness. So we find actual industrial processes in simplified form being used for project work. In the fascinating study of record-making in Grade IV the children make parchment and paper. They make and bind the special books they need with more or less detail according to the grade. So, too, they raise the silkworms until they can finally wind the silk off the cocoon as it is done in our silk factories. They make baskets, pads, boxes—anything for which they have a use in their work. These illustrate Industrial Projects, but the purpose is much broader than the mere making of objects.

The Project Method, like every other method, does not always guarantee smooth sailing. There are sure to be periods of discouragement when the children seem marking time and the results discouraging. This is often due to a lack of definiteness in the purpose behind the project. No project is worth while unless undertaken with a clear-cut aim, and until a teacher is skilled in holding a project to this aim it is helpful to write down concisely what she expects to accomplish with the project. There is a grave danger in the elementary school project of over-emphasizing the concrete products to the neglect of more important things.

The general organization of the class-room leads up to project work. To use the project method successfully the child must be trained to think for himself and to purpose. Are we training him in independence of thought and purpose, or does he turn to us for everything? Are we allowing him to share some of the responsibility for the day's work for his own conduct and for others? These seem minor details, but they affect every project we undertake.

The project stands for growth and the increased efficiency of our

schools. Too long we have been doling out education in fragmentary bits, which the child must piece together as best he can into the whole cloth of life. But in the newer arrangement of curriculum, of method and of materials, we have the broader loom to work upon, and for our guidance it is threaded carefully, the warp strong and unbreakable. Ours is the task to weave the cloth from which lives are patterned. Shall we make it a dull grey homespun which is undoubtedly serviceable, but which reacts upon the spirits like a dreary November day? Or shall we weave ours equally strong but alive with colour in which, as in that wonderful web of the Lady of Shallot,

Shadows of the world appear?

If we do this there is nothing that can give us the same supply of colour, the same richness of material, the same endless variety of pattern, as the use of the project method in our elementary schools.

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Devices for Foreign Classes

T. H. W. MARTIN
Wellesley School

IN the early part of last year the tide of immigration, stemmed by the late war, began to be felt again in Canada. The task of making Canadians of these foreigners is ours once more. The children of these immigrants must attend school and special classes are formed to teach them English so that they may be received in the standard grades.

Owing to the crowded condition of schools, and the reluctance of the public to provide funds, it has become necessary to double the numerical limit of these classes, which now range in number from twenty-five to forty pupils. The management of such classes and their training in the English language, British ideals, Canadian customs, personal cleanliness and self-government present an extraordinary problem.

Could classes be adjusted to grade foreign pupils, much time and

effort could be saved, even if this adjustment only separated those who could read and write from those who couldn't. With classes whose members vary in age from eight to sixteen years and as widely in intelligence, many of whom have never been to school, the instruction must be almost entirely individual. A host of devices adapted to small groups or individuals greatly aids progress.

From the first lesson, and until the pupil controls a working vocabulary, pictures form the basis of the best devices. The first group of pictures should consist of one object clearly portrayed and isolated to avoid any possibility of error. These can be cut from advertising pages and catalogues and pasted on small squares of stiff paper. Space should be left below for a word, phrase or sentence to be added later. For example: A picture of a horse is cut and pasted. For pupils who can read a short sentence such as "This is a Horse", should be written on the picture, with the name word underlined. The picture is shown and the question asked: "What is this?" Pointing to the words the teacher reads: "This is a Horse". The question is repeated until the pupil answers correctly. After repeating it several times the pupil writes it in his book ten or fifteen times. He makes a duplicate of the card, sketching the picture for himself or using carbon paper. The next time these pictures are used it will be necessary only to have them handed about and to give the questions and answers.

For pupils who cannot read larger pictures may be shown, named, and cut into puzzles for busy work. When they have been put together several times the pupils will recognize the written work and associate it with the picture. Later, as a test, that portion of the puzzle bearing the name word, may be placed on the table. When the pupil has solved the puzzle he comes for the name piece. Thirty such pictures can be made up in as many minutes. When each pupil has seen each of the thirty he will be ready for more complex pictures. These used pictures are turned back to be used by the newcomers who are constantly coming in.

The following steps are: (1) The grouping of associated objects on one sheet; (2) simple illustrations culled from magazine and newspaper advertisements, with suitable sentences, such as one of a painter mixing his paints, and the sentence: "The painter is mixing his paint"; (3) illustrations in which five or six objects are numbered. Opposite corresponding numbers on the margin the names of these objects are written. Underneath is a descriptive sentence. The number of these words and sentences is gradually increased. When the pupils are confident that they know these words they may be tested by cutting off the list of words. Picture pieces and word pieces are numbered. The pupils are given the pictures and required to write the names of the

objects. They test their own work by securing the word piece from the table. (4) In this series the written work takes the form of a short story. These pictures are excellent for use in the odd moments which follow exercises. With foreign classes the lack of grading causes loss of time since no two pupils finish the seat work at the same time. Lessons on oral composition may be based on these pictures, thus providing exercise in speaking from thought, such as is not provided by the readers. To make this exercise more difficult the stories may be cut off and the pupils required to write one or two paragraphs suggested by the picture.

Group five introduces new pictures. These pictures should embody in new relations, the objects met with in former pictures. Pupils may be asked to write stories about these pictures, describe them, or name the objects orally.

If thirty minutes of each school day, for the first two or three weeks, is spent clipping, pasting, and writing up these pictures, a sufficient supply may be obtained to last the whole term. By reason of the grading and constant circulation these will not become tiresome. Large coloured pictures are the best, for they call forth greater admiration and effort. Modern magazines are mines of material for the teacher in this respect. The gap between the spoken language and the readers is thus made almost invisible, and enables the pupils to read and understand interesting stories, without being forcibly dragged through such infantile selections as:

Fly little bird.

Fly little bird to the nest, etc.

In a very short time they are spending most of their spare time in the children's library. Over ninety per cent. of my class have library cards, and are supplied with first class material.

Long before the last series of pictures has been covered, written questions and answers are introduced. These begin with questions requiring answers of yes or no, such as:

Are you a boy?

Did you come from Poland?

Are you more than ten years old?

Have you a cat?

They can be corrected, orally, in a few minutes. They are followed by questions requiring phrasal answers, such as:

How old are you?

Where do you live?

Then answers in sentences may be demanded. Questions bearing on stories, told or read, are popular and arouse keen competition.

After the present progressive form of the verb has been taught a question, such as "What are you doing?" may be put on the board,

followed by a list of verbs. The pupils are required to answer using these verbs. For example: "Paint". "I am painting my house white". These questions, when varied in tense or person, are very instructive.

On a little booklet used by the Y.M.C.A. in their settlement work some very successful exercises may be based. It deals with daily duties and activities in logical order. The topic of arising is dealt with in this manner:

I open my eyes.	open
I look at my watch.	look
It is seven o'clock.	is
	etc.

As seat work the verbs may be left on the board and pupils required to write the story. A change of person of the subject provides an exercise on possessive pronouns. There are three series of these booklets priced at five cents each. Each deals with ten or twelve activities.

From this point on there is little difficulty in assigning exercises on plurals, antonyms, etc., and lessons in English grammar, as studied.

Again, in the case of those who have not been to school and cannot read or write, the first thing demanded of them is that they be able to write their name and address. For these pupils sheets of work paper may be prepared, bearing on the first line in rounded letters, "My name is Max Rosenberg", or whatever it may be. These are distributed and explained, and are given out daily until the name is mastered. Then follows, "I live on Henry Street", etc.

All foreign pupils seem to have a natural aptitude for arithmetic. On this may be based a very successful device for junior classes. The number facts are taught. For testing or drilling they are placed on the board using words, figures, and illustrations of common objects.

Following this idea sheets of work paper may be issued bearing on the first line a sketchy figure of a cat, and the words, "Here is my cat". This is explained and the pupils read it. Then they copy both sketch and sentence. The next day it is followed with more news of the cat such as, "Her name is Tabby". These are greatly enjoyed. A variation of the object provides endless material.

These devices have been the most successful of those tried. Some can be used but a short time, some at intervals, and others continually without becoming tiresome.

History Professor: "Didn't I tell you to be prepared with your history lesson? And here you are unable to repeat a word of it".

Stude: "I didn't think it was necessary, sir; I've heard that history repeats itself".

Costume Design in Schools

MISS ELEANOR M. SHEPHERD
Calgary, Alta.

"WHAT'S the use of art?" is a question frequently asked in connection with school work. For the practical-minded art assumes a new aspect when it takes the form of costume design or interior decoration, for these phases are as utilitarian as is household science or arithmetic. We wear clothes and we live in houses; therefore learning to consider these subjects correctly should form part of a child's education.

Grade I. Doll and dress to fit, with stick-printing decoration.

At what age and in what grade can costume design be introduced? This is a pertinent question mainly because of the difficulty in securing accurate pose drawing. In the junior classes this can be overcome by using paper dolls or cut paper figures.

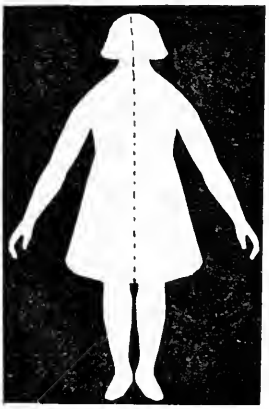
The new Art Course in Alberta will probably introduce this subject in Grade III. Following this suggestion the students of Art Methods II in the Summer School at the University of Alberta have worked out this year a series of charts showing how costume design may be taught in the grades from I to X. The work for each class was planned by a separate student, and the results contain some interesting ideas.

For Grade II to illustrate how difficult detail (*i.e.* face and hands) may be avoided.

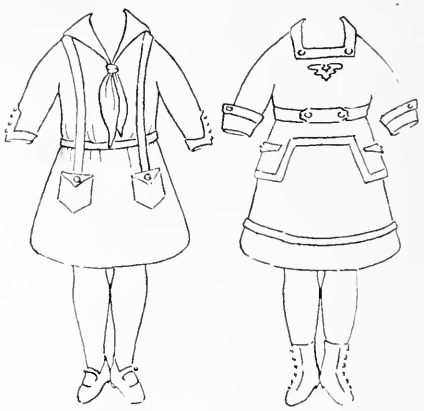
For Grade I the student secured a paper doll (price ten cents) made from very stiff paper and representing a child about three years old. The arm is cut free from the petticoat so that the dresses will slip under it. By tracing around the figure a pattern is made from which garments may be cut. There is no problem of drawing face, arms or feet, as these are on the doll. The dresses can be decorated with designs made by the use of coloured crayons, cut paper, or stick printing. Thus the child begins his training in applied design, and learns something of line, mass, and colour combinations.

For Grade II the teacher may make a large drawing of a child's figure. In addition, she should have enough small duplicates to supply the class. Make these on paper 4½″ x 6″, that is, one-quarter of a 9″ x 12″ page. The child can cut out this figure and use it as a pattern for as many costumes as he chooses. They may be cut from coloured papers, or tinted with crayon and decorated with designs. From this figure the pupil will learn something of proportion, and will acquire facility in cutting the outline of head, hands, feet and legs.

The new course for Grade III mentions a middy blouse and skirt as a suitable problem. The method of cutting to give a representation of these can be taught from the model and by diagrams on the blackboard. A separate problem for boys might be a loose winter overcoat of simple style.



Grade IV.—Cut Paper Figure.



For Grade IV to illustrate the effect of horizontal and vertical trimming lines on the same figure. Designs to be developed in cut paper or plain washes, and made to fit cut paper figure.

With Grade IV comes the introduction of water-colour. The steps suggested for this grade include: (1) The cutting of a bisymmetric figure by folding white paper double. It is wise not to attempt to draw the face; rather use a cut from a magazine illustration. (2) Consideration of plain washes of colour in combination with white. (3) Study of lines of trimming to counteract the effect of stoutness or thinness. (4) The designing of costumes for both boys and girls, applying rules of colour and line.

In Grades V and VI a similar method may be followed. The instructor should aim to teach: (1) More difficult designs, (2) combinations of colour, (3) harmony of certain colours with types of complexion, (4) suitability of the costume to a definite occasion, *e.g.*, a dress for school versus one for a party.

The next two Grades may introduce: (1) The actual drawing of the figure; (2) the comparison of long and short skirts and sleeves, and of light and dark materials; (3) the discussion of good and bad types of dresses from the standpoint of (*a*) line and design, (*b*) colour, (*c*) light and dark, (*d*) suitability, (*e*) material; (4) making examples to illustrate these points. This will mean practical information for the pupil who does not attend High School.

The method for Grade IX was illustrated in an interesting way. First comes the sketch of the figure wearing a white slip, then a pencil sketch of a simple costume (*e.g.*, school dress); the same costume with a blue wash and areas left white for ruffles and vest; finally a pale cream tint covered the white; this introduced neutral orange, the complement of blue. Following this study of the first costume came a design for a summer dress with wide-brimmed hat, and lastly a winter coat with small hat to harmonize.

A new phase may be developed in Grade X by painting the designs in simple masses with *tempera* colours to get a poster effect. In both High School grades pen and ink work can be used. An interesting possibility is the correlation of art with literature by having fancy costumes designed to suit the characters in the books studied. Most of the students, whether gifted with facility in art or otherwise, find this work fascinating and it serves to add vividness to the literature.

For the teacher of this subject certain rules should be kept in mind: (1) Thin figures should wear hats with drooping brims, dresses with horizontal trimming lines, round or square necks, short skirts and "bouffant" materials; (2) stout figures require hats with rolling brims, dresses of simple design, with vertical lines, "V" necks, longer skirts, and clinging materials; (3) light colours tend to increase apparent size and dark colours do the opposite; (4) costumes must be suitable to the occasion; (5) contrast of light and dark is much more striking than contrast of colour, so avoid it except where you wish emphasis; (6) style must always be secondary to good design; (7) as to colour a standard book says: "Dress to the eyes. If they are not definite enough in colour then dress to the hair, not forgetting the *contour* of the face".

(NOTE.—The writer wishes to thank the students of her class in Art Methods II for the use of suggestions.)

Examiner: "I am surprised that you all made mistakes in answering the question, "Where was the Magna Charta signed?" Think it over—can no one tell me?"

Little Boy (at bottom of class): "I can, sir".

Examiner: "Well?"

Little Boy: "At the bottom of the page".

From the Board's Point of View

New Educational Bibliographies

Lists of references to literature of all the principal topics in education may be obtained in mimeographed form on application to the Commissioner of Education. Washington, D.C. The lists are prepared in the library division of the bureau and are frequently revised. New lists have recently been prepared on the following topics: Continuation schools, delinquent children, English—teaching to foreigners, exceptional children, Federal aid to education, French language—study and teaching, illiteracy, Latin—teaching, nature study, pageants, psychological tests, religious education, teachers' certificates, teachers—improvement in service; vocational guidance.

Household Science and Manual Training

In view of the approaching operation of the Adolescent School Attendance Act, boards of trustees in urban centres are seriously discussing types of schools and classes suitable for the boys and girls who are required to attend school under the new act. The interests of economy must be considered, but it will generally be found that the best and most suitable course is in the long run the most economical. The following report on Household Science and Manual Training in High Schools was drawn up by Lieut.-Col. Wm. C. Michell, M.C., Principal of the Riverdale Collegiate Institute, for the Toronto Board of Education, some months ago. It refers in part to conditions peculiar to that school, but for the most part the facts are of general application. This is interesting evidence from a school where these courses have been in actual operation

HOUSEHOLD SCIENCE AND MANUAL TRAINING IN HIGH SCHOOLS. REPORT TO TORONTO BOARD OF EDUCATION, BY LT.-COL. WM. C. MICHELL, M.C.

The suggestion has been made that the Manual Training and Household Science Departments of Riverdale Collegiate Institute be removed so as to provide more accommodation for regular classes. I have observed the work of these departments for several years and respectfully request you to consider the following facts before taking such action.

MANUAL TRAINING IN HIGH SCHOOLS

1. Boys learn to understand and work from blueprints.

2. They draw to scale, using drawing boards and drawing instruments.

3. They get general and experimental knowledge of Canadian woods and their uses.

4. They learn the construction and uses of many tools.

5. Mind and hand are both trained in the work.

6. Habits of prolonged and persistent effort are formed in making the projects the boys undertake.

7. Opportunity for exercising a boy's ingenuity and resourcefulness is afforded.

8. Most boys are intensely interested and work energetically.

9. Every boy is taught to realize that intelligence and skill should characterize the work of the labouring classes.

10. It enables a boy to appreciate good material, design and workmanship, in all constructive work.

11. The change from the regular school work is a great aid to general discipline.

12. The Government, from 1915 to 1919 inclusive, contributed the sum of $2,573.50 to maintain this work in Riverdale Collegiate. The total cost of equipment is included in this amount.

13. The High School Inspector states that in his opinion the room could not be divided into approved class-rooms.

Household Science in the Collegiate Institutes of Toronto

1. Household Science as a practical form of education is recognized by the University of Toronto, and the Department of Household Science occupies the finest building at the University.

2. The object of the University is to train young women to become teachers of this subject in the secondary schools of Ontario. Twenty or more High Schools in Ontario are already equipped with Household Science Departments, conducted by honour graduates in that course. Up to date just two centres have been established in Toronto. It would be a retrograde step to abolish a course which is just coming into its own.

3. Household Science in the secondary schools aims to train the girl as a member of society in her home and in her community. It contributes, as all studies rightfully pursued should, toward the development of the social efficiency of the student.

(*a*) The girl is given a knowledge of food values in relation to health.

(*b*) She is taught the quantity and kind of foods necessary, and the selection of a balanced ration.

(*c*) The chemical constituents of foods and their comparative values in the diet.

(*d*) The preparation of foods in relation to the meal as a whole, showing the girl how to select and combine her foods.

(*e*) The conservation of food supplies and the wise use of substitutes in relation to the health of the various members of the family.

(*f*) A study of the selection, furnishing, and sanitation of the home; the management of the home and the care of the members of the family.

(*g*) A study of clothing, emphasizing the care and repair of clothing, in addition to the making of simple articles and garments.

(*h*) A short course in Home Nursing and Personal Hygiene in order that the girl may relieve simple ailments, and exercise intelligent care in the household.

4. High School students are at an age when they can best appreciate and apply this knowledge, which co-ordinates with their chemical studies.

5. Household Science is recognized as a part of the general scheme of Education in the Secondary schools in England.

6. If Household Science were taught only in the Technical Schools the girl who selects an academic course in the High Schools would be deprived of a valuable part of her training.

7. Educationalists who are familiar with the "Smith-Hughes Bill," passed in 1917 by the Federal Government of the United States, will realize the important role this subject is assuming in the curriculum of the American secondary school. If Toronto should abolish the subject it would surely be a definite step backward.

8. The Toronto Board of Education has received from the Department of Education (1915-1919) over $46,000 towards the support of Household Science.

9. To do away with the present centres would render valueless the expensive equipment which has been selected with the very greatest care. The Board of Education from 1915 to 1919 inclusive, received from the Government for the maintenance of this work in R.C.I. the sum of $1,549, in which is included the total cost of the equipment.

10. The need in the Province and the Dominion for an increased number of trained teachers in Household Science for the secondary schools has been emphasized by the establishment of a Department of Household Science in the Ontario College of Education. The teachers in training depend for their practise teaching to a great extent on the High School centres in Toronto.

11. The coming into force of the Adolescent School Attendance Act will mean increased numbers at the High Schools. If Household Science is taken from the High Schools the opportunity of influencing many of the future home-makers will be lost. This subject is of the utmost value in Canadianizing our foreign population.

12. The Household Science room is used for night classes four evenings a week.

The Junior High School Entrance Examination

C. E. Mark, B.A., D.Paed.
Normal School, Ottawa

At the convention of city teachers held in Ottawa on February 24th and 25th, a round-table conference was held on the subject "Should the Junior High School Entrance Examination be abolished in towns and cities of Ontario?" This is a rather controversial question of more than local interest and bearing. A province-wide discussion at the various local institutes might crystallize into a body of fact and argument that would prove of assistance to those empowered to regulate such matters. Accordingly, we have ventured to place before the readers of The School a brief resumé of the arguments pro and con, as brought forward by the various speakers here.

Those contributing to the discussion represented all types of schools, Public, Continuation, and High. Three positions were taken, namely: that the examination should be retained: that the present combined system of examination and recommendation be continued; that the system of recommendation by teachers and principals be extended to cover all cases of admission, except those coming from non-accredited schools or those candidates for admission who wish to apply on their own responsibility.

The advocates of examination took their stand on the following grounds: such a test gives an added stimulus to study; healthy competition with one's peers is beneficial: standards cannot be maintained without such a safeguard; teachers are subject to bias and prejudice.

The arguments for a limited recommendation system maintained that this system, as tested in Ottawa, Hamilton, London, Toronto, and elsewhere, has given eminent satisfaction. The records of pupils on the recommended list in Ottawa were examined in connection with the December examinations of the Collegiate Institute, and it was ascertained that they everaged ten per cent higher than those who gained admission on examination. It was, however, held to be necessary to limit the recommendation to a certain percentage of those seeking admission, in order to maintain the present standard of qualification.

The exponents of an extended use of recommendations, making the reservations noted above, held that a single written examination, set, conducted, and examined by strangers, is not always an adequate or fair test. Some pupils consistently and regularly take a high standing, others are subject to lapses, one day at their best, another day not doing themselves justice. Yet these same pupils are often good pupils in the eyes of the teacher who knows them and who is acquainted with their work, day after day.

They also claimed that written examinations test largely for information rather than for capacity and application. It has always been

possible for a clever tutor to prepare successfully inferior pupils for an examination, by an intensive use of rules and short-cuts and by resort to cram and grind. Native capacity, however, is bound to reveal itself in class work and it is not an infrequent occurrence for one who is admitted with a low passing mark, to forge to the front during the years that follow. It is quite probable that some of those slightly below the passing mark would also have done creditable work if admitted. Mistakes will doubtless occur at times, whatever system is adopted, but surely it is a greater injustice to retard one deserving pupil than to allow an occasional undeserving candidate to proceed.

Another argument urged was that undue nervous stress at this period of early adolescence is in some instances injurious.

A well-grounded objection to this examination consisted in the charge of a false motivation which it induces for study. At the beginning of one's student life it is most unfortunate to start out with the "motif" of passing an examination, rather than the "motif" of the desire for self-improvement or interest in the subject. Such an attitude of mind tends to make the examination the goal to be reached, after which, as a matter of course, study ceases. How many there are who, with the obtaining of a certificate or degree, consider their education complete and who no longer turn to the great store-houses of literature, history, science, and philosophy for further truth, inspiration, and enjoyment. The functioning of the Adolescent School Attendance Act may do much towards dissipating the suggestion of finality lurking about this examination.

Then also, if the Junior Entrance examination is injurious to the pupil it also comes between the teacher and his highest ideals of work. If it is harmful to study mainly for an examination, it is equally so to teach for that end. But the teacher cannot well escape from the fact that public opinion judges him largely by his success in "getting pupils through". Accordingly the teacher who has regularly passed one hundred per cent. of a large class has in many quarters been regarded as a phenomenal success and as worthy of all praise. There was, however, a disposition at the convention to question this judgment. One, indeed, expressed himself so forcibly as to say that such a teacher should be "hanged". Another agreed, but would have him "suspended".

All seemed agreed that standards must not be lowered and that the work of the High School must not be crippled by an inundation of incompetent pupils.

In the final analysis the question seemed to resolve itself into one of the professional veracity of the teacher and his competency to judge. We accept the certificate of a clergyman as to the moral character of a candidate for entrance to a teacher-training school. We accept the

doctor's certificate as to physical fitness. Even a lawyer may sometimes make a recommendation in his professional capacity. The principals of the graded schools in towns and cities, according to the intent of the Education Department, are men of equal calibre, and with trained minds quite on a par with those in the other professions. They should be placed on that plane of confidence and trust which will call forth their best as responsible members of society. A suitable penalty could easily be devised for one who betrayed that trust.

Recent Magazine Articles and Reports on Education

Waste in Education, by H. R. Bonner, Chief of Statistical Division, U.S. Bureau of Education, treats particularly of irregular attendance, repetition of school work and withdrawal from school.—The American School Board Journal, July, 1921.

The Teachers' Council discusses the success of the Teachers' Registration Council in establishing a Teachers' Register and the probable future influence of such an organization of teachers.—The Times Educational Supplement, July 9th, 1921.

A Brief Bibliography of Scottish History for the Use of Teachers. 12 pages. Leaflet No. 21.—The Historical Association, 22 Russell Square, London, W.C., England.

Annual Bulletin of Historical Literature, No. X, dealing with publications of the year 1920. Edited by Professor F. J. C. Hearnshaw.—The Historical Association, 22 Russell Square, London, W.C.

A Survey of the Three First Grades of the Horace Mann School by Means of Psychological Tests and Teachers' Estimates, by Clara F. Chassell and Laura M. Chassell.—Journal of Educational Psychology, May, 1921.

Vocational Education in the Pittsburg Schools, by Frank M. Leavitt.—Manual Training Magazine, June, 1921.

Boys and Literature, by W. H. Blake.—English Journal, June, 1921. An account of a successful experiment in interesting boys in literature.

Education for Citizenship, by Hamilton and Knight.—The Historical Outlook, June, 1921. An interesting account of experiments made in the American army.

The Value of English in Secondary Education, by Margaret H. Hertzel.—Education, June, 1921.

Papers Presented at the Imperial Conference of Teachers' Associations. Published for the League of Empire by the University of Toronto Press, Toronto.

Ontario Examinations in Art, 1921

Lower School Examination for Entrance into the Normal Schools

S. W. PERRY
Ontario College of Education

THE purpose of this article is to provide the teachers of art with the Lower School examination paper, and the scale of valuations used by the examiners in marking it, to indicate the advancement which has been made in the teaching of this subject by reproductions of the work of some of the candidates, and to give suggestions regarding lines of work which should be more strongly emphasized in the teaching of this subject.

Those who have been in a position to observe express their pleasure at the remarkable progress which has been made. An improvement in general standards of taste must in due time result.

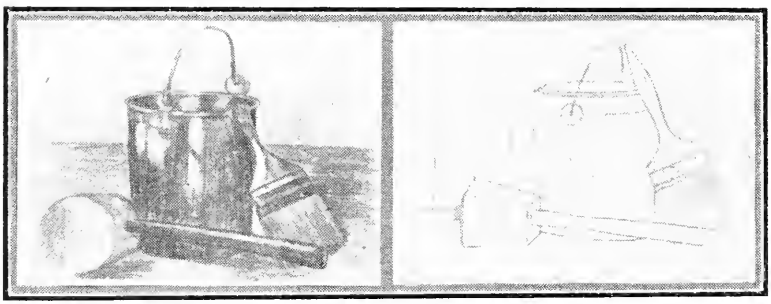


Plate I.

Art has too long been supposed to be the possession of this few. To-day, like Tennyson's Freedom, "She has 'stept down' from her exalted position, thro' town and field to mingle with the human race".

A very interesting educational circular issued by the Bureau of Education at Washington deals with the effect of Art upon national energy. It makes the statement that, while a large percentage of the population—those engaged in the production and the distribution of commodities—is engaged in pursuits which are directly affected by art, the people in general are 100 per cent. consumers of these commodities 100 per cent. of the time. If the complete success of the designer, of the workman, and of the salesman is to a large extent dependent upon art, "the success of all three depends upon the intelligent consumer who understands the essentials of good workmanship and fine design. The

people inspire the designers by having a taste that requires good workmanship, and in turn the designers, artists, and workmen inspire the public to still higher desires. This suggests, to the teacher of art, a broad aim—the stimulation of good taste in those who are to be our future designers, artists, workmen, and intelligent users of the commodities which should be produced in Canada by Canadians.

In answering question (1) some candidates failed to note that a tone drawing was not required. The first drawing in Plate I was one

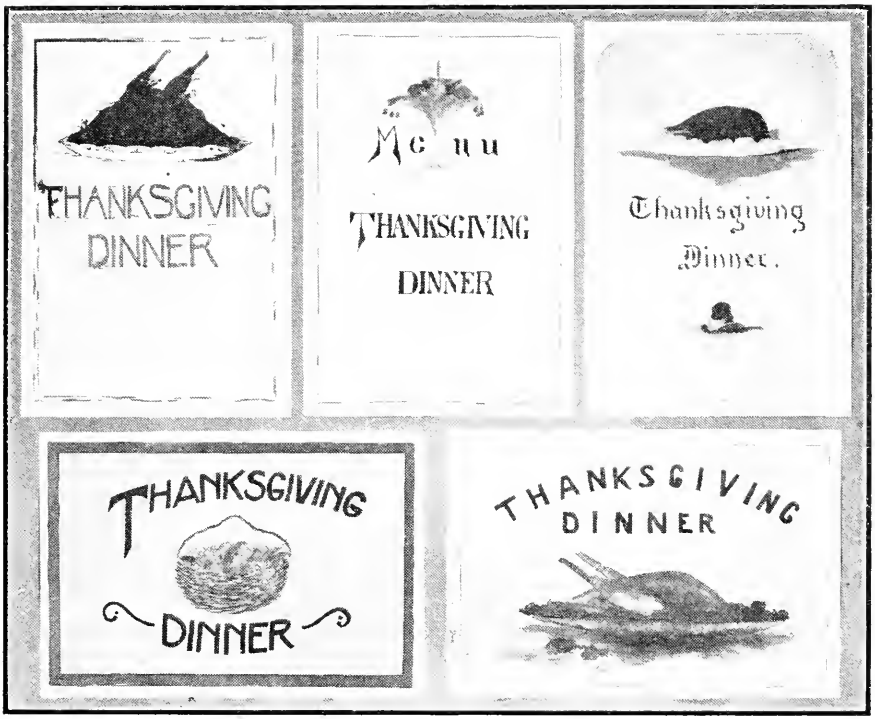


Plate II.

of the best submitted. The question was intended to test the ability of the candidates to draw in *outline* which has been described as "the alpha and the omega of Art". The second drawing in Plate I is a good answer to the question. The scale of valuations accompanying this article indicates the importance attached by the examiners to *proportion* and *perspective* in such a drawing.

Question 2 provided a wide choice for a test in applied design. This division of the course in art is wisely receiving the greatest attention. By far the largest number of excellent answers was obtained from this

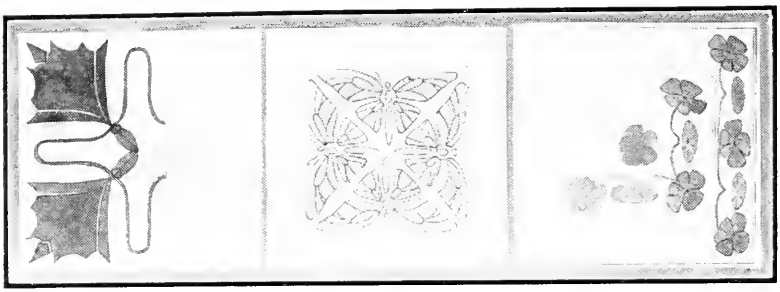


Plate IV.

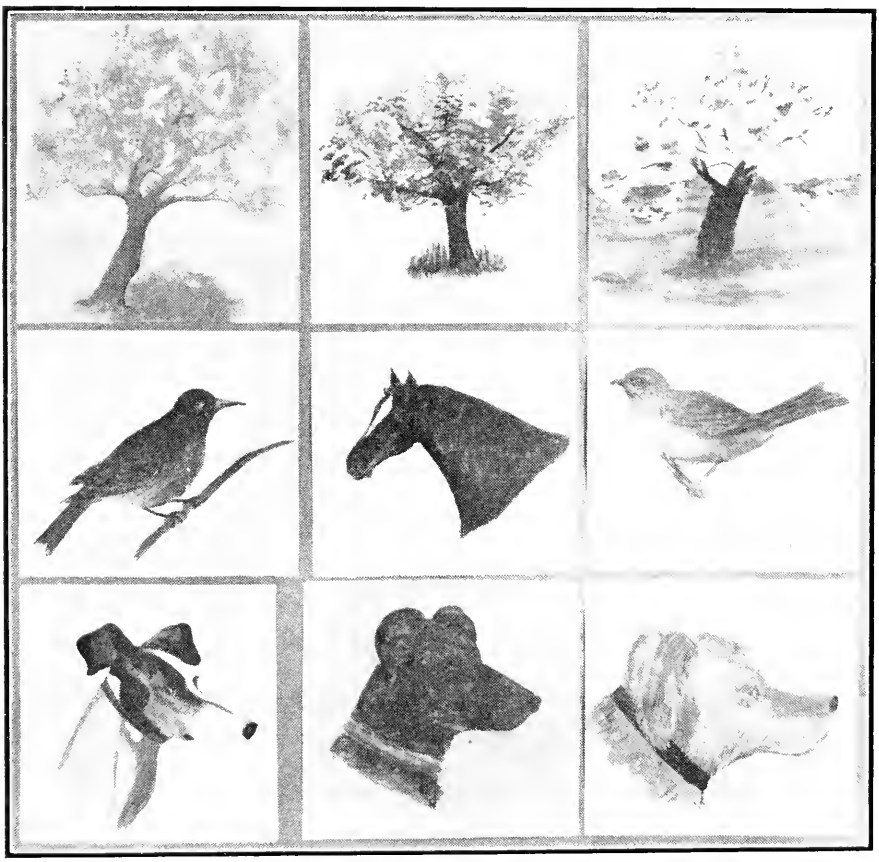


Plate V.

question. For samples of the candidates' designs see Plates 2, 3, and 4. At the present rate of improvement in this department of art Canada will soon be independent of the foreigner for skilled designers and artisans. Should not something be done to single out the best of these candidates and by scholarships, or by other means, to direct them along lines which will be pleasurable and profitable to themselves, and of industrial and artistic value to the country?

An option was provided in question (3) for candidates of exceptional artistic ability. Teachers should caution those of less talent for drawing from memory, persons, animals, birds and trees, against choosing this question. Many attempted it who could make nothing but a caricature drawing of an apple tree, robin, horse, or dog. Some of the best drawings are reproduced in Plate 5.

Question 4—a picture study—provided an option for such as did not possess the talent to make a successful drawing of the object required by question (3). All children cannot draw with equal facility, but all can be trained with very little effort to appreciate and love pictures. Yet many candidates showed by the poverty of their answers that little or no training had been given them in this, the most enjoyable part of the course in art.

Common and necessary terms used in art should be carefully explained as to their meaning and use; many candidates showed ignorance of the meaning of such terms as *eye-level, sky-line, action, perspective depth.*

The artist named his picture "Diana of the Uplands".

The following are a few of over fifty appropriate titles given by the candidates:

Thoroughbreds, Country Beauties, Playmates, The Hunters, The Hike, Chums, Good Sports, Lovers of the Wild, Doggedness.

I. THE QUESTION PAPER

LOWER SCHOOL EXAMINATION FOR ENTRANCE INTO THE NORMAL SCHOOLS

ART

NOTE 1.—*A separate sheet of drawing paper shall be used for each answer.*

NOTE 2.—*The size and the placing of the drawings will be considered in the valuation of the answer papers.*

NOTE 3.—*The use of the ruler and of other mechanical instruments is permitted only in answering question* 2.

(*Three questions constitute a full paper. Questions* 1 *and* 2 *are obligatory; a choice is allowed between* 3 *and* 4.)

1. Make a pencil drawing, in *outline*, about nine inches in width, of the group of objects submitted. The drawing must show (*a*) a well-chosen position on the sheet, (*b*) careful proportions, and (*c*) correct perspective.

2. Design, and express in water-colours in pleasing harmony, any *one* of the following:—

(*a*) A menu cover, six inches by nine inches, lettered THANKSGIVING DINNER, and suitably decorated with a drawing of a roast turkey on a platter (or of a table basket of fruit).

(*b*) A dining-table centre-piece, oval in form and nine inches long, suitably decorated with a wreath design suggested by the foliage and flower (or fruit) of some Canadian tree, shrub, or plant. (The candidate need finish only sufficient to show the colour scheme.)

(*c*) A tea-pot tile, seven inches square, decorated with a border and an all-over pattern.

3. Make a water-colour drawing, about seven inches at its greatest dimension, of any *one* of the following:—

(*a*) An apple tree in flower (or in fruit).

(*b*) A robin (or any other Canadian bird).

(*c*) The head of a horse, or of a dog.

4. Answer in pencil, on one side only of the drawing paper, the following questions about the picture on the opposite page:

(*a*) Illustrate from this picture the difference between "sky-line" and "eye-level", and between "background" and "foreground".

(*b*) Enumerate the means adopted by the artist to give prominence to the lady in the picture.

(*c*) Point out in the picture the artistic indications of:

Plate III.

(i) action;
(ii) strength;
(iii) speed;
(iv) perspective depth;
(v) kind of day.
(*d*) Give the picture an appropriate name.

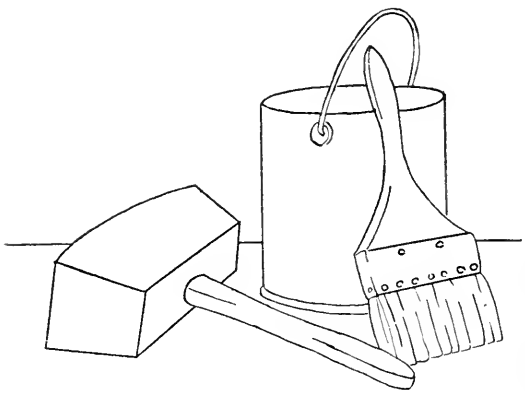
II. CONFIDENTIAL INSTRUCTIONS TO PRESIDING OFFICERS

RE ART FOR THE LOWER SCHOOL, MODEL ENTRANCE, SENIOR HIGH SCHOOL ENTRANCE, AND SENIOR PUBLIC SCHOOL GRADUATION EXAMINATIONS, JUNE, 1921

1. The paper to be used is drawing paper from the authorized (No. 2) Blank Drawing Book.

2. Each candidate shall be allowed four sheets of drawing paper at the commencement of the examination period and additional sheets as he may need them.

3. Each group of objects supplied shall be placed on supports on a level with the top of the desks or tables at which the candidates are drawing. One group of objects to every six or eight candidates should be sufficient.



4. For question 1, each group shall consist of—

(*a*) A carpenter's mallet.
(*b*) A paint pot.
(*c*) A paint brush.

The group shall be arranged as in the following diagram.

5. If a mallet or paint pot should prove difficult to secure, a clawed hammer may be substituted for the mallet, and a half gallon or gallon honey pail, or preserve pail, or shortening pail, may be substituted for the paint pot.

This sheet must not be shown to the candidates.

III. SCALE OF VALUATIONS

1. Pencil drawing in outline—Mallet, Paint Pot, and Paint Brush			34
(*a*) Size and placing (2+2)			4
(*b*) Form—(1) Proportion—			
Proportions of each object (2+2+2)	6		
Relative proportion of objects	2		8
(2) Perspective—			
Consistent eye-level	4		
Convergence	7		
Foreshortening	7		18
(*c*) Quality of line and general neatness			4
2. Design in water colours			34
(*a*) Menu cover—			
(1) Size and placing (2+2)			4
(2) Design—general relation of parts, proportion, balance	6		
lettering (suitability, uniformity, spacing)	8		
decoration (artistic expression)	4		18
(3) Colour scheme			8
(4) Handling (including neatness)			4

(*b*) Table centre-piece—
(1) Size and placing..... 4
(2) Design—artistic adaptation of motif..... 9
rhythmic application..... 9... 18
(3) Colour scheme..... 8
(4) Handling (including neatness)..... 4
(*c*) Tea-pot tile—
(1) Size and placing..... 4
(2) Design—general plan and proportions..... 6
artistic development of border..... 6
artistic development of the all-over pattern 6... 18
(3) Colour scheme..... 8
(4) Handling (including neatness)..... 4
3. Water colour sketch..... 32
(*a*) Apple tree, (*b*) Robin, (*c*) Head of horse or dog—
(1) Size and placing (1+1)..... 2
(2)Form—character..... 6
proportions..... 6
perspective..... 6... 18
(3) Colour treatment..... 8
(4) Handling (including neatness)..... 4
4. Picture study..... 32
(*a*) Sky-line vs. eye-level..... 2
Background vs. foreground..... 2... 4
(*b*) Lady made prominent by position in foreground, size, light dress against dark background, interesting lines of form and poise (2 x 4)..... 8
(*c*) Artistic indications of—
action..... 3
strength..... 3
speed..... 3
perspective..... 3
kind of day..... 3....15
(*d*) Appropriate name..... 5

Problems in Mathematics

PROFESSOR J. T. CRAWFORD
Ontario College of Education

TEACHERS of mathematics in the High Schools will be interested in a discussion of the problems set for scholarship candidates at the Honour Matriculation examination this year. The paper contained fifteen questions, of which ten constituted a full paper. The problems were well selected and varied in difficulty. A fair number of them were simple enough to give the average candidate a chance. We have had papers in which the examples were so difficult that many candidates were able to solve only a very small number of them.

Solutions of the first four problems are given. It is not assumed that they can not be solved by other methods and, may be, by better methods. THE SCHOOL will welcome correspondence concerning these solutions and will undertake to solve, in these columns, problems contributed by readers of the magazine, if such problems would likely be of general interest to teachers of mathematics.

1. In an investigation there is reached an expression ax^2+bx+c which, it is known, must take the value zero for a certain three different values of x. Find the values of a, b, c.

This is a particular case of the general theorem: If any positive integral function of x of the nth degree vanishes for more than n different values of x, then each of the coefficients must vanish.

In the case given, suppose the expression vanishes when $x=p$ or q or r, then

$ap^2+bp+c=0$, $aq^2+bq+c=0$, $ar^2+br+c=0$.

Subtract the first two equations and divide by $p-q$, which is not zero, and $a(p+q)+b=0$.

Similarly from the last two $a(q+r)+b=0$.

Subtracting these results we obtain $a(p-r)=0$. But $p-r$ is not zero, therefore $a=0$. It easily follows that $b=0$ and $c=0$.

2. If x is a real number find the smallest value of

$$\frac{x^2+x-2}{x^2+2x+3}$$

Let the given fraction equal y, then

$$x^2(1-y)+x(1-2y)-(2+3y)=0.$$

Since x is a real number $(1-2y)^2+4(1-y)(2+3y)$ must be positive. Therefore $-8y^2+9$ is positive or $8y^2-9$ is negative. Therefore y must lie between $3/2\sqrt{2}$ and $-3/2\sqrt{2}$ and therefore the smallest value of the given fraction is $-3/2\sqrt{2}$.

3. Assuming that the two infinite series

$$1+\frac{m}{1}.x+\frac{m(m-1)}{1.2}.x^2+\ldots\ldots$$

$$1+\frac{n}{1}.x+\frac{n(n-1)}{1.2}.x^2+\ldots\ldots$$

may be multiplied to yield a series of powers of x, find a simple expression for the coefficient of x^r.

The series are the expanisons of $(1+x)^m$ and $(1+x)^n$ and the complete product is the expansion of $(1+x)^{m+n}$. Therefore the coefficient of x^r is $(m+n)\ (m+n-1)\ldots\ldots(m+n-r+1)/\lfloor r$.

4. If n points, in general positions in a plane, are joined in all possible ways, find the number of intersections exclusive of the given points.

Every two points, when joined, will form a line and therefore the number of lines is the number of combinations of n things 2 at a time which is $\frac{1}{2}\ n(n-1)$. Therefore the total number of intersections is the number of combinations of $\frac{1}{2}n(n-1)$ things 2 at a time which is $\frac{1}{8}\ n(n-1)(n-2)(n+1)$.

Through each of the given points there are $n-1$ lines. These would make $\frac{1}{2}(n-1)(n-2)$ intersections at each point or $\frac{1}{2}n(n-1)(n-2)$ in all.

The required number of intersections

$$= \tfrac{1}{8}n(n-1)(n-2)(n+1) - \tfrac{1}{2}n(n-1)(n-2).$$
$$= \tfrac{1}{8}n(n-1)(n-2)(n-3).$$

Current Events

(To August 18th)

Canadian Political Affairs

Since school closed in June, several important things have happened. An Irish truce has been declared, and negotiations have been conducted which still seem to offer hope of a satisfactory settlement of the terrible Irish question. Canada is directly interested, not only because we have so many citizens of Irish birth or extraction, but because British-American relations have been adversely affected for a century by Irish discontent. Indeed, it is not too much to say that the peace of the world depends in no small measure on a satisfactory and just settlement of the Irish trouble.

The Canadian Premier, Hon. Arthur Meighen, took part in an Imperial Conference of Prime Ministers. The brief summaries given to the press show that there was a thorough exchange of views, that Dominion autonomy was maintained, and that the Dominion premiers took a strong stand in favour of a reduction of armaments and a conference with other Pacific powers. The attitude of the Conference toward the ever-recurring proposals to give the Empire a written constitution was explained recently by the British Premier in the House of Commons. He said:

> It was the general feeling of the Imperial Conference that it would be a mistake to lay down rules and embark upon definitions as to what the British Empire means. To do so would be to weaken its unity. We came to the conclusion that the fact was the thing that mattered.
>
> There is an understanding that on all questions of foreign policy the Dominions should be informed, and, as far as distance permitted, consulted.
>
> We don't want to interfere in their internal affairs; they don't want to interfere in ours; but they do want to feel they're a part of this amazing organization which is the first thing of its kind in the world.

The Washington Conference on Pacific questions and reduction of armaments, called by President Harding for November 11th, will have a very great influence in determining whether Great Britain shall renew the Japanese Alliance. Many hope that it will not only settle all the disturbing Pacific problems, but prevent naval rivalry between Great Britain, Japan and the United States, and pave the way for the entry of the United States into the League of Nations, or some substitute for the League. Canadians are vitally interested in this Conference, for Canada is a Pacific power, and earnestly desires world peace.

In Alberta, Provincial elections took place in July. The Liberal Government, led by Hon. Charles Stewart, was defeated, and has now been succeeded by a Farmer-Labour Cabinet headed by Mr. Herbert Greenfield, Vice-President of the United Farmers of Alberta. Since it was established as a separate province in 1905, Alberta has voted consistently Liberal in provincial politics until this election. The standing of the parties in the new house will be approximately as follows: United Farmers, 36; Liberals, 16; Labour members, 3; Independent, 4. The members of the new Cabinet are: Herbert Greenfield, Premier, Provincial Treasurer and Provincial Secretary; Edward Brownlee, Attorney-General; George Hoadley, Minister of Agriculture; Richard G. Reid, Minister of Municipalities and Public Health; Perrin E. Baker, Minister of Education; Vernon Smith, Minister of Railways and Telephones; Mary I. Parlby, Minister without portfolio.

Canada is fortunate in having as her new Governor-General a soldier of such distinction as Lord Byng, who not only had a brilliant career in South Africa, the Soudan, India and Egypt, but took a distinguished part in the Great War, both in Gallipoli and on the Western Front. Canadians, however, are specially interested in him because he was for a time commander of the Canadian Expeditionary Force, and led it in the celebrated action at Vimy. It is no wonder that Lord and Lady Byng have been welcomed to Canada with more than usual heartiness.

Teachers are specially interested in the recent celebration at Penetanguishene of approximately the three hundredth anniversary of the arrival of Champlain in the Huron County, and of the founding of Christian missions there. Every Canadian school boy has had his imagination stirred by the story of the daring of Champlain, the devotion and courage of the Recollet and Jesuit missionaries, and the horrors of the successive campaigns by which the Iroquois blotted out the Huron settlements. It was very fitting that these stirring events should be celebrated, and it is to be hoped that other localities will in turn celebrate on suitable occasions the work of the great people and organizations which helped to found our country.

A Constitutional King

The Editor of the *London Times*, a paper owned by Lord Northcliffe, was indiscreet enough in an interview given to a New York paper to represent that the King had forced the hand of the British Prime Minister in the negotiations with Ireland. The King was said to have made his own speech before the Ulster Parliament, and to have had the following remarkable conversation with Lloyd George before going to Ireland:

"Are you going to shoot all the people in Ireland?"

"No, Your Majesty", the Premier replied.

"Well, then", said the King, "you must come to some agreement with them. This thing cannot go on. I cannot have my people killed in this manner".

This interview led Mr. Lloyd George to read the following statement in the House of Commons:

Statements have appeared in certain organs of the Irish and English press attributing words to the King relating to Irish policy. They appeared in the form of an interview which Lord Northcliffe seems to have given in the United States of America, and to have forwarded to his newspapers here for publication. It is impossible to follow all these calumnies, but those to which I refer are of so categorical a character, and are so calculated, it is believed, to prejudice seriously the chances of an Irish settlement, that His Majesty has authorized me to read to the House of Commons the following on his behalf:

"His Majesty the King has had his attention directed to certain statements reported in an interview with Lord Northcliffe, appearing in *The Daily Mail*, and reproduced in *The Daily Express* and some of the Irish newspapers. The statements contained in the report are complete fabrications. No such conversations as those which are alleged took place, nor were any such remarks as those which are alleged made by His Majesty.

"His Majesty also desires it to be made quite clear, as the contrary is suggested in the interview, that in his speech to the Parliament of Northern Ireland he followed the invariable constitutional practice relating to speeches from the Throne in Parliament".

I hope that this statement may do something to sterilize the effects of the criminal malignity which, for personal ends, is endeavouring to stir up mischief between the allies, and misunderstanding between the British Empire and the United States, and to frustrate the hope of peace in Ireland.

It is very gratifying to be assured that the King is not attempting to change constitutional usage or to exercise authority which has long rested with the British Cabinet.

The Unspeakable Turk

On March 15th, 1921, a young Armenian named Teilirian assassinated Talaat Pasha, chief of the Young Turk Party and, during the latter part of the Great War, Grand Vizier of the Ottoman Empire. It was anticipated that the assassin would be promptly condemned and executed, but the trial held in Berlin on June 2nd and 3rd developed into the most damning indictment of the late Turkish Government, and of

the German military authorities who did nothing to save the Armenian nation from extermination. Professor Lepsius, who defended Teilirian and secured his acquittal, proved by means of German official reports, and Turkish official documents captured by the British at Aleppo, not only that appalling massacres of Armenians had taken place, but that Talaat Pasha and the Committee of Young Turks had given the most explicit instructions that Armenians, old and young, should be slaughtered The first document reads as follows:

March 25, 1915.

To Jemal Bey, Delegate at Adana:

It is the duty of all of us to effect on the broadest lines the realization of the noble project of wiping out of existence the well-known elements who have for centuries been constituting a barrier to the empire's progress in civilization. For this reason we must take upon ourselves the whole responsibility, saying: "Come what may", and appreciating how great is the sacrifice which has enabled the Government to enter the World War, we must work so that the means adopted may lead to the desired end.

As announced in our dispatch dated February 18th, the Jemiet (Young Turk Committee) has decided to uproot and annihilate the various forces which have for centuries been an obstacle in its way, and to this end it is obliged to resort to very bloody methods. Be assured that we ourselves were horrified at the contemplation of these methods, but the Jemiet sees no other way of insuring the stability of its work.

Ali Riza (the committee delegate at Aleppo) criticized us and called upon us to be merciful; such simplicity is nothing short of stupidity. For those who will not co-operate with us we will find a place that will wring their delicate heartstrings.

I again recall to your memory the question of the property left. It is very important. Do not let its distribution escape your vigilance; always examine the accounts and the use made of the proceeds.

These early instructions were imperfectly carried out, probably because of the comparative mercifulness of local officials, and so the Committee issued order after order to make quite sure that its commands were fulfilled with the utmost completeness, but without letting the truth reach Western Europe and America. These documents, which cannot be produced here in full, but may be read in the July, 1921, *Current History*, constitute the most complete condemnation of the Turks, and confirm our worst suspicions concerning them.

G. M. J.

Book Notices

The Book of New Ideas. No. II. The Kingsway Series. Evans Bros., London, England. Price 2*s.* 6*d.* 75 pages. Many helpful devices for teaching children six to ten years of age. Reading, writing, spelling and language-training. W. R. H.

A Bibliography for School Teachers of History, edited by Eileen Power, M.A. Paper covers. 62 pages. Price 1/6. London, Methuen & Co., 1921. Teachers of history will find this bibliography very useful.

Historical Statistical Survey of Education in Canada. This pamphlet of 120 pages is published by the Dominion Bureau of Statistics at Ottawa. It will be sent free to any teacher making application for it. It contains an immense amount of interesting matter concerning education in all the provinces. It gives an historical statistical survey of education in Canada and includes the more important available statistics from the beginning of the century. It is intended to serve as an introduction to a series of annual statistical reports based upon the new scheme of co-ordinated statistics of education approved by the conference of Dominion and Provincial officials on education statistics held in October, 1920. Teachers are advised that the report of this conference may also be obtained on application to the Dominion Bureau of Statistics. The Survey report is the work of Professor S. A. Cudmore and Mr. M. C. McLean, of the Branch of Education Statistics, Dominion Bureau of Statistics.

Playtime Games, by Emma C. Dowd. Price 5*s.* net. 191 pages. Published by Messrs. George G. Harrap & Co., Portsmouth St., Kingsway, W.C. Teachers of children, ages five to eight, will find these ninety or so games in story form valuable class-room equipment. None of the stories would require more than five minutes for reading or for dramatization. W. R. H.

The Book of School Sports. Edited by Gilbert Jessop and J. B. Salmond. 291 pages. Published by Thos. Nelson & Sons, Ltd., Toronto. There is a shortage of new books telling how to direct sports in the schools, and how to correlate this activity with the every-day studies. Publishers are searching everywhere for books to meet the demand. Into this book the editors collected articles by specialists on English school sports. Teachers in charge of sports will find the articles on athletics, soccer and cricket pertinent matter for use in Canadian schools. W. R. H.

Things Worth Making, by Archibald Williams. Published by Thos. Nelson & Sons, Ltd., Toronto. Here are 507 pages of interest for the teacher and pupil of mechanical turn of mind. Simple language, a profusion of sketches and a wealth of ideas, together with durable binding and clear type, make this a necessary part of any well-equipped school or class library. Contents: Joints in woodwork; things for the house, the kitchen, the study, the nursery, the garden and the workshop; windmills, electric motors, aeroplanes; bookbinding, etc. The title well describes the contents.

W. R. H.

The Sand Doctor, by Arnold Mulder. Published by Thos. Allen, Toronto. A pleasant bit of fiction published in good time for fall reading. It is a keen study of human life located in the sand dune region of the Great Lakes. The chief characters, Dr. Quentin, his wife, and Larrymore, are made to live before the reader. Dr. Quentin, a clever graduate in Medicine, but with his real vocation in Science, misunderstood by his wife, unable to live a life of forced reality; his wife, devoted but inclined to make light of his ambitions; Larrymore, a case of dual personality, each side quite distinct. The author has told well a story about these characters. W. R. H.

An Anthology of Modern Verse, chosen by A. M. Limp cloth. 240 pages. Price 2/6. London, Methuen & Co., 1921. This is a valuable collection of modern verse chosen primarily for the general reader, but containing a very great deal that is quite suitable for school use. Roughly speaking, the pieces chosen are either the work of living poets or, with rare exceptions, of poets who have died within the last fifteen years. Altogether 89 authors are represented, in some cases by one or two poems, in others by as many as nine. It is impossible to give a list of names, but most of the prominent British poets like Hardy, Kipling, and Noyes are represented by poems. From the Canadian standpoint there is one blemish—prominent Canadian poets are quite overlooked. This is a fault that can be easily remedied in a second edition. Teachers looking for a cheap anthology of modern verse should see this book.

G. M. J.

Synonyms and Antonyms, by F. Sturges Allen, A.B., LL.B. Published by The Musson Book Company, Ltd., Toronto. Pages 481. Price $3.50. Contains a great many words not contained in other books of this kind, as well as special notes of explanation that define clearly the more important and less easily understood distinctions between words. Words are also characterized as slang, colloquial, formal, pedantic, etc. Special typography and page arrangements make this book easy for the eye and quick for ready reference. It is comprehensive and comprehensible.

W. R. H.

A New History of Great Britain, Part II., by R. B. Mowat, M.A. Cloth. 675 pages. Price $1.25. Toronto, Oxford University Press, 1921. This is the second volume of a school history of England by a well-known scholar. (A review later.)

Junior High School English, Book I, by Briggs McKinney and Skeffington. Illustrated. Cloth. 400 pages. Boston, Ginn & Co.

Elementary Algebra, by Durell, Palmer and Wright. 688 pages. Price, 8*s.* 6*d.* G. Bell and Sons, Ltd., London. This text covers all the work in algebra required for pass and honour matriculation. It is also published in two parts containing the junior and senior work respectively. It will be found useful to teachers in Canadian high schools, particularly on account of the exceedingly large number of exercises which it contains. Besides the usual examples which accompany the theory there are 159 pages of revision examples. A unique feature of the teachers' edition of the book is an introduction of 48 pages containing hints and suggestions as to methods of teaching. This feature will be welcomed by inexperienced teachers, and the experienced teacher will also find in it much interesting and valuable matter. J. T. C.

Macmillan's Historical Atlas of Modern Europe, edited by F. J. C. Hearnshaw. Cloth. 11 pages of coloured maps. 30 pages of text. Price $2.00. Toronto, The Macmillan Co. of Canada, Ltd., 1921. This is an excellent historical school atlas of modern Europe on the same lines as the larger one by Robertson and Bartholomew. The maps, most of them 7½ by 10 in., are well printed. The text which accompanies each map explains the main changes in that particular part of Europe during the period designated. Such an atlas as this will be of great service to the Upper School or University student studying modern European history. G. M. J.

The Imperial Commonwealth, by A. P. Poley, F.R.C.I. Cloth. 388 pages. Price 12/6. London, Cassell and Company, 1921. The story of the growth of the British Commonwealth socially, politically, industrially, from the earliest times to 1920.

Shakespeare's Julius Caesar, Shakespeare's Merchant of Venice, edited with brief notes and glossary, by George H. Cowling, B.A. 132 and 125 pp. respectively. Limp cloth. Price 1/6 each. London, Methuen & Co., Ltd.

A Short World History, by E. M. Wilmot-Buxton, F.R. Hist. S. Cloth. 219 pages. London, Methuen & Co., 1921. This book attempts to trâce very simply the line of development through the rise and fall of Empires, showing the general principles of cause and effect.

Social Life in England to 1500, by Elizabeth H. Devas. Limp cloth. 96 pages, Price 2/6. London, Methuen & Co., 1921. This is a useful well-illustrated social history for junior classes, dealing with such topics as homestead and castle, classes. work, clothes and armour, amusements, etc.

The Modern Teacher, edited by A. Watson Bain, M.A. Cloth. 272 pages. Price 10/6. London, Methuen & Co., 1921. This is an important group of essays on educational aims and methods by well-known British and French educationists. Most of the important school subjects are treated. (A review later.)

A Course in English Composition, by S. E. Winbolt, M.A. Limp cloth. 153 pages. London, Blackie & Son, Ltd. A companion volume to the author's survey of English Grammar. It is intended for boys fourteen to sixteen years of age.

Sheridan's The Rivals, edited by Professor W. L. Phelps. Cloth. XIV+109 pages. Illustrated. Price 60c. The Gregg Publishing Co., New York. Has full introduction and brief notes.

History the Teacher, by Frederick J. Gould. Cloth. 132 pages. London, Methuen & Co., 1921. A book on methods of teaching history by an enthusiast who believes that history is "the supreme theme".

The Teaching of English, A New Approach, by W. S. Tomkinson. Paper boards. 230 pages. Price $2.00. Toronto, Oxford University Press. In this new approach to the problem of teaching English the author lays special stress on oral expression and reading.

The Grafonola and Citizenship

DR. J. T. M. ANDERSON
Director of Education among New Canadians, Regina, Saskatchewan

I BELIEVE that there should be a Grafonola in every school room. Aside from being of value for entertainment purposes its proper use as an educative medium cannot be overestimated. In the Non-English settlements it has been found of great value in acquainting the pupils with a knowledge of the English language. These children readily learn to sing patriotic and other songs which they hear played on the machine and the interesting stories found on many records are soon memorized. I visited a school not long ago in a German settlement and found a Grafonola was being used with remarkable results. When the hour for dismissal came, a little girl came forward and placed a record on the machine. When the music started the children were dismissed in an orderly manner.

During the story-telling hour records were used and thoroughly enjoyed by the pupils, and the music lesson again emphasized the value of this aid to teaching. The children sang beautifully to the accompaniment of the grafonola, and the teacher informed me that a new interest in school life had resulted from the introduction of the machine. The parents, too, were delighted with the progress being made in the musical training of the children and heartily endorsed the use of the grafonola in the rural school.

Notes and News

Change of Price

During the past four years practically every newspaper and magazine found it necessary to increase its subscription price. THE SCHOOL did its very best to avoid such an increase, but it has at last been forced to follow reluctantly the lead of other journals. The increase, however, is exceedingly modest—25 cents, for THE SCHOOL is asking for only what is absolutely necessary to enable it to serve its subscribers efficiently.

Last Year's Index

Any reader desiring an index of THE SCHOOL for 1920-21 can secure one free, on request.

Ontario

That the summer Courses in various subjects offered by the Ontario Department of Education in 1921 were appreciated by teachers is

evident from the fact that a grand total of nearly 1,950 teachers availed themselves of the privilege of attending these courses this summer. The numbers attending the various courses were as follows:

1. Courses in Toronto: *At University Schools*—Commercial Subjects, 20; Elementary Manual Training, 12; Vocal Music, 58; Academic Courses for Second Class Certificates, 22; Academic Courses for First Class Certificates, 82. *At Hart House and Household Science Building*—Physical Culture—Men, 96; women, 225. *At University of Toronto*—French, 37; *At Central Technical School*—Household Science, 95; Advanced Manual Training, 16; Teachers of Vocational Subjects—Men, 25; Women, 58. *At the Armouries*—Cadet Instructors, 75. *At the College of Art*—Art, 223. *At the Normal School*—Kindergarten-Primary, 132. *At Medical Building, University of Toronto*—School Nurses, 56. *At Social Service Building, University of Toronto*—Teachers of Auxiliary Classes, between 50 and 60.

2. *Courses at Outside Centres: Hamilton*—Kindergarten-Primary, 35. *London*—Kindergarten-Primary, 87. *Ottawa*—Kindergarten-Primary, 35. *Guelph*—Agriculture, 425. *Monteith*—Agriculture, 25. *Whitby*—Agriculture, 130.

The second meeting of the Imperial Conference of Teachers' Associations was held in Toronto from August 10-13. The first Conference was held in England in 1912. The meetings are planned and arranged by the League of Empire associated with the Overseas Club and Patriotic League. Over a hundred delegates registered from overseas. Many interesting addresses were delivered. The 140-page volume containing the papers presented at the Conference is being reprinted and will soon be available for distribution. It is well worth study.

The first annual meeting of the Canadian Teachers' Federation was held in Toronto on August 6-9. Meetings were held in the Board of Education Building and an address of welcome was delivered by the Chairman of the Board. Among the delegates present from the various provinces were: Mr. H. Charlesworth, Miss H. R. Anderson, and Mr. J. G. Lister, from British Columbia; Mr. J. W. Barnett, Mr. H. C. Newlands, and Mr. T. E. Stanley, from Alberta; Miss J. V. Miners, Miss C. J. MacRae and Mr. J. R. Brownlee, from Saskatchewan; Mr. H. W. Huntley, M.A., Mr. E. K. Marshall, M.A., and Mr. C. W. Laidlaw, from Manitoba; Lieut.-Col. Wm. Michell, B.A., Mr. J. Shortt and Miss Helen S. Arbuthnot, from Ontario; Dean Sinclair Laird and Mr. W. Allen Walsh, B.A., from Quebec; Mr. L. W. Shaw and Mr. R. H. Rogers, from Prince Edward Island.

Resolutions were carried favouring two-year professional training for teachers after the High School Course, and asking the executive of the Federation to take steps to secure greater equality of teachers'

qualifications in Canada. A resolution was adopted recommending the reimbursement of teachers of the Western Provinces who had suffered financial loss through "standing for principles for which the C.T.F. stands" as soon as funds were available. The question of foreign immigration was discussed, and a resolution adopted asking the Federal Government to extend grants to the Provinces for the education of immigrants. The treasurer's report showed total receipts for the year $500; expenses, $300. The following officers were elected for the ensuing year: President, Mr. Harry Charlesworth; Vice-President, Mr. H. W. Huntley, Manitoba; Secretary-Treasurer, Miss H. R. Anderson, Vancouver.

Miss Jennie Stead has been appointed organizer of the Federation of Women Teachers' Associations of Ontario. She has resigned her position in the Walkerton Public School, and will devote all her time to visiting local organizations, enrolling members, and developing interest and enthusiasm. This appointment marks a great advance in the development of teacher organizations in Ontario, and augurs well for the future of the Women's Federation. Miss Stead has not only had a long and very successful career in the Public Schools, but she has showed her executive ability in helping to organize the East Bruce and South Grey Women Teachers' Associations. From the beginning she has been interested in the Federation, and was Vice-President during the second year. She was formerly secretary of the East Bruce Trustees' Association, and is now secretary of the Bruce County Trustees' Association.

Ontario College of Education, Class 1920-21.—Nearly all the members of this class have been engaged to teach in the schools of Ontario. The following is a partial list of those appointed: W. E. M. Aitken, Ph.D., the Technical School, Toronto; R. L. Bell, B.A., Harbord St. C.I.; G. E. Braithwaite, B.A., Toronto P.S.; Helen R. Coatsworth, B.A., Household Science Department, University of Toronto; L. Cummiford, B.A., Windsor P.S.; Helen G. Day, B.A., Meaford H.S.; L. W. Dippell, B.A., Vankleek Hill H.S.; J. J. Dunlop, B.A., Ottawa C.I.; Marjorie Fair, B.A., Kingston C.I.; Jean Fell, B.A., Seaforth C.I.; E. A. Fines, B.A., London Technical and Art School; Lily Floody, B.A., Thorold H.S.; G. E. Fraser, B.A., St. Michael's College, Toronto; A. B. Gardiner, B.A., Newmarket H.S.; J. K. Graham, B.A., Toronto P.S.; W. T. Graham, B.A., Harbord St. C.I.; E. O. Hall, B.A., Jarvis St. C.I.; Ila M. Hambly, B.A., Harriston H.S.; R. B. Horwood, B.A., Parkdale C.I.; C. W. Houghton, B.A., Barrie C.I.; Helen A. Mabee, B.A., Kingsville H.S.; H. E. Magee, B.A., Brown School, Toronto; Marjorie E. F. Mallagh, B.A., Thorold H.S.; J. L. McNaughton, B.A., St. Thomas C.I.; W. T. Medcoff, B.A., Galt C.I.; Clara H. Norman, B.A.,

Lucan H.S.; Marion Pearce, B.A., Burford H.S.; F. E. Powell, B.A., Brown School, Toronto; A. R. Self, B.A., Technical School, Toronto; Edith G. Sheridan, B.A., Madoc H.S.; A. Sinclair, B.A., Clinton C.I.; J. A. Sonley, B.A., Ottawa C.I.; Mabel W. Stillwell, B.A., Harriston H.S.; R. V. Summerhays, B.A., Clinton H.S.; Rachel Wood, B.A., Gananoque H.S.; Myrtle E. Gardiner, B.A., Windsor C.I.; Muriel H. Thompson, B.A., Alliston H.S.

News from the Normal School classes of 1920-21 will be given in October. It was still incomplete when the September number went to press.

Last month Sarnia laid the conrer-stone of a new $500,000 Collegiate Institute. Addresses were delivered by Dr. F. W. Merchant and by Mr. F. F. Pardee, M.P. for West Lambton.

W. W. Trench, Principal of Perth Collegiate Institute, has been appointed fourth public school inspector of York County.

In connection with the Hands-Across-the-Sea movement over 50 Canadian teachers left Toronto last month to spend a year teaching in English schools. Similarly, English teachers are coming to Canada for a year. The Canadian teachers in England will be under the jurisdiction of the London County Council.

Attendance at the Summer Courses in Education offered by the University of Toronto continues to increase. Sixty-five were in attendance this summer. An interesting feature of the session was a course of lectures by Dr. W. W. Charters on Educational Measurements and Statistics. Dr. Charters is director of the research bureau for retail training in the Carnegie Institute of Technology, Pittsburgh, Penn.

Quebec

The following thirteen graduates of McGill University completed successfully a course prescribed for a First Class High School Diploma, and have been granted these diplomas by the Protestant Central Board of Examiners: Katharine Cameron, Montreal; Sarah D. Campbell, Lachute; Helen R. Cockfield, Outremont; Winnifred H. Davidson, Montreal; Agnes C. Ford, Portneuf Co.; Katharine McL. Ford, Portneuf Station; E. J. Holland, Montreal West; Margaret L. Macdairmid, Westmount; Edgar D'Arcy McGreer, Montreal; Gladys A. Mills, Ormstown; Jessie M. Thornton, Notre Dame de Grace; P. J. McVittie Montreal; C. H. Savage, Montreal.

The summer school in French, held under the auspices of the Teachers' Training Committee, was conducted in the Commercial Technical High School, Montreal. Two teachers received the advanced

diploma as specialists in French, which gives the school by which they are engaged the right to a government grant of $200. In addition, nine teachers received second class specialists certificates, of whom three were recommended to receive first class certificates for showing greater fluency in French. Further, three other teachers received a second class certificate valid for one year only, which may become permanent upon the successful completion of another course of training. The director of the school is Mr. R. E. Raguin, assisted by Miss Janet T. Gregg and Miss A. Seiden. The successful candidates are as follows: First Class Certificate, Miss Grace E. Prowse, Westmount; Miss Edith A. Goodlet, Lachine; Second Class Certificates, Campbell Amaron,

Alberta

As a result of the recent elections in Alberta the Hon. George P. Smith, Minister of Education, retires from office and from the Legislature. Mr. Smith has directed educational affairs in that Province for the past three years. His policies have been far-seeing and statesmanlike and pushed with his characteristic vigour and enterprise. In such matters as the use of government funds for teachers' housing and as loans to enable prospective teachers to take Normal courses he has really blazed the trail so far as this continent is concerned. During his regime the legislative grant for education was doubled.

The Summer School for Teachers, held at the University of Alberta under the auspices of the Department of Education, created a record for this Province, both from the standpoint of attendance and enthusiasm. Five hundred teachers took advantage of this opportunity for summer study. Of these twenty-five were teachers of vocational subjects taking special pedagogical courses in the organization and presentation of their subjects. This attendance represents slightly more than 10 per cent. of the teaching force of the Province.

Frank H. Arnold, Supervisor of Penmanship in the City of Spokane, was the only visiting instructor, all the others being outstanding teachers from within the Province itself.

Henry Gray Menzies, after serving nearly five years overseas, returned to Canada last year and was for a time attached to the staff of the Camrose Normal School. He has recently been appointed to the principalship of the schools at High River.

Alberta teachers continue to spend their summers in graduate work in eastern universities. C. Sansom, of the Edmonton Normal staff, is continuing his work with Professor Terman at Stanford University; Miss Dickie, of the same staff, is spending the summer in England studying at Somerville College, Oxford, under Sir Walter Raleigh; Miss McSkimming and Miss Johnston, of the Camrose Normal staff,

are studying at Columbia and Boston universities respectively. Inspector Fuller, of Wainwright, is doing graduate work at the University of Toronto, and C. E. Leppard, Principal of Sunalta School, Calgary, and C. H. Robinson, of Camrose, have been studying at Queen's; Miss Mary Crawford, of the Victoria High School, C. B. Willis, Principal of Alex. Taylor School, Edmonton, Miss Florence Hallock, Supervisor of Household Economics, Edmonton, Miss Cato, of the same staff, and Miss Orr, of the Camrose Practice staff, are also attending the summer session at Columbia.

Miss Bertha English and Miss Jean Buchanan, popular Edmonton teachers, recently received appointment to the school staff at Dawson City. They sailed from Vancouver for the North on August 6th.

Miss E. A. Hastie, formerly assistant in Household Economics on the city staff, has recently been appointed to the staff of the Edmonton Normal School.

Friends of Mr. C. E. Leppard, the popular and efficient secretary of the A.E.A., were shocked to learn of the sudden death of Mrs. Leppard while visiting at her old home in Ontario. Mr. Leppard was in residence at Queen's University at the time. The sympathy of Alberta teachers and educationists generally goes out to Mr. Leppard and his family in this great sorrow.

Charles R. Smith, formerly principal at Provost, has recently returned to New Brunswick to join the staff of the Aberdeen High School at Moncton. Mr. Smith did good work in Alberta and will doubtless be equally successful in his native province. His place at Provost has been taken by W. P. Wagner, formerly of Mannville.

During the summer a change in administrative officers at the Department of Education of more than usual interest took place. George K. Haverstock, who had with great efficiency filled the office of Registrar for the past two years, gave up this position to join the field force of the Department as Inspector at Hardisty. A very successful teacher, an efficient administrative officer and courteous public official, he should make an ideal inspector. He has been succeeded by Howard J. Spicer, Principal of Sunalta School, Calgary. Mr. Spicer has been a popular principal, has had office experience and was for several years secretary of the Alberta Educational Association. His appointment will ensure a continuance of satisfactory service in this important branch of Departmental work.

Miss Mary McEachern, who was compelled to retire from the staff of the Calgary Practice School about a year ago because of ill health, will be found at her post again when the school opens in September. A year's rest has completely restored her strength. Her return to this important work is a great satisfaction to all interested in teacher training.

Miss Howard, formerly of Wainwright, has recently joined the staff of the Camrose High School.

E. L. Cody, who has been senior teacher at Nobleford for the past two years, has recently been appointed Principal of the Banff schools.

A. E. Hutton, of the Calgary Normal staff, and Miss Bowman, of the staff of the Edmonton Technical School, have been visiting teachers at Victoria on the staff of the British Columbia Summer School.

Geoffrey V. Van Tausk, instructor in Agriculture in the Victoria High School during the past year, has resigned his position to take up similar work in Moose Jaw, Saskatchewan.

Paul R. Breckon, a recent graduate of the Edmonton Normal School, has just been appointed to the staff of the Crescent Heights Collegiate Institute, Calgary.

L. R. Mattern has just returned to Alberta after a year's work in graduate study in Education at London University under Professor Adamson and Professor John Adams. Mr. Mattern has found his work in London very interesting and his observation of the organization and methods employed in English secondary schools very suggestive. He will resume his work on the staff of the Strathcona High School in September.

Miss Katherine B. Goodfellow, who has been a member of the Practice School staff at Camrose since the Normal School was established, has recently retired to do further work at Columbia University.

A. J. Heywood has given up his work in the South Calgary High School to become principal at Millet.

On June 22nd last the corner-stone of the new building, which is to be used as a Normal School and Institute of Technology combined, was laid in Calgary. The ceremony was performed by the Minister of Education, Hon. George P. Smith. Premier Stewart presided and after the foundation had been laid delivered an address. Splendid progress is being made with the building which, when completed and equipped, will represent an outlay of more than a million dollars.

Out of about 110,000 teachers in England eligible for registration nearly 70,000 have already registered with the Teachers Registration Council. The fee for registration is £2.

The resignation of Mr. P. P. Claxton as Commissioner of Education for the United States was recently announced. He had held the office since 1911. His successor is Professor J. J. Tigert, Professor of Philosophy in the University of Kentucky. Dr. Tigert was the first Rhodes Scholar from Tennessee. He was a delegate to the Ecumenical Methodist Conference at Toronto in 1911.

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The School

"Recti cultus pectora roborant"

Editorial Notes

The New High School

It is evident that the Adolescent School Attendance Act is already producing results. From all directions come reports of attendance in Ontario secondary schools far beyond the normal. As the extent of the increase in attendance could not always be estimated in advance, there comes at the eleventh hour an urgent demand for teachers. According to advertisements in one Toronto daily paper, in one week after the opening of school some forty teachers were wanted, in most cases as additions to the staff. To secure the attendance of the adolescent is the first thing. The next is to make sure that the courses offered will be such as to justify the attendance of pupils who would otherwise be at home or at work. Fortunately the amendments to the high school curriculum offer scope for differentiated courses, and high school teachers, and trustees may be relied on to rise to the great opportunities now offered. New subjects will doubtless be added, new phases of school life emphasized. The domination of examination requirements should disappear. It will doubtless take time to work out the consequences of the new conditions but it does seem that a new era in secondary education in Ontario is at hand.

Extension Courses

Ontario teachers who are anxious to improve their academic standing will welcome the announcement of the new extension courses offered by the University of Toronto. It has always been a difficult problem for the teacher in service to do work that will count toward a University degree in Arts. Summer Schools at Queen's and Toronto have done much to aid. Now the Provincial University offers a solution of the problem for the teachers of Ontario by providing means of securing a B.A. degree without discontinuing their teaching. For teachers in service the University of Toronto has offered for some years now classes in the afternoon for those who live near enough to the University to take advantage of them. In common with Queen's she has also offered correspondence courses preparatory to the work of the Summer Session. And now, in

in order to give equality of opportunity to teachers living elsewhere in the Province, a new system of extra-mural classes has been arranged so that, in any centre in Ontario, teachers may, under certain conditions, secure direct instruction in evening classes during the winter. This is a radical departure but it is one that has met with hearty approval from thinking people everywhere. Indeed, in this instance as in many others, so carefully have the Universities planned their courses that no teacher in Ontario can plead lack of opportunity as an excuse for hesitating to proceed towards a degree in Arts.

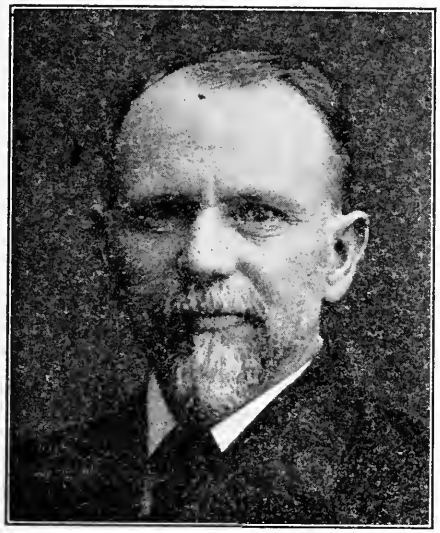
An Educational Tour

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto.

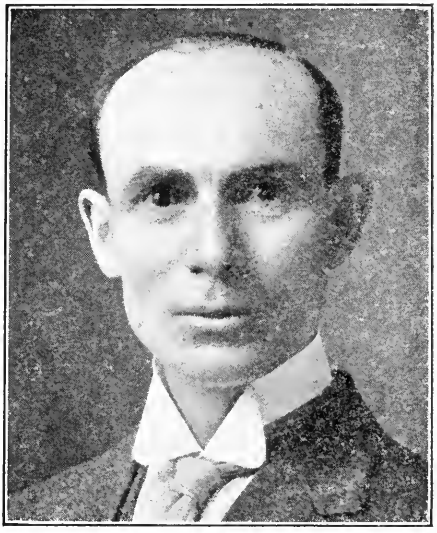
LATE in the evening of August 21st there gathered at the Union Station, Toronto, some one hundred and eighty teachers from all parts of Ontario. These were the representatives chosen by their Teachers' Institutes to visit Northern Ontario on the tour of inspection arranged by the Ontario Educational Association in co-operation with the Minister of Education. These teachers were setting out to study geography in the way that Columbus and Champlain, Cabot and Shackleton, and all other discoverers and explorers, studied the subject. Having heard of the wonderful experiences of those who were fortunate enough to be members of last year's party, these representative educationists were anticipating a week of profit and of pleasure—and they were to get it.

To make the teachers welcome and to provide in every way for their comfort there were present the same men who performed this function so admirably last year. There was President A. E. Bryson, Principal of Cobalt Public Schools, an enthusiastic exponent of the resources, the beauties, and the possibilities of the North; quiet, unassuming, tireless, he seemed the embodiment of practical efficiency and organizing power. There was the Secretary, Principal Chas. G. Fraser of Manning Avenue School, Toronto, known everywhere as "Charlie", the jovial, the inimitable story-teller, who had every detail literally and figuratively at his fingers' ends, whose merry laugh spread its contagion wherever heard, whose thoughtfulness was the wonder of all. In charge of Car No. 1 was Principal Martin Kerr of Earl Kitchener School, Hamilton, whose motto seems to be "cheerfulness and eternal vigilance are necessary for the smooth running of educational machinery". Principal W. J. Thom-

son of Brown School, Toronto, with his never-failing smile and his businesslike effectiveness, presided over the occupants of Car No. 2. The "guide, counsellor, and friend" of those who lived in Car No. 3, was Principal R. M. Speirs of Frankland School, Toronto, whose kindness, courtesy, and quiet power eminently qualified him for the responsibility he assumed. Those who occupied Car No. 4 looked for direction to Principal Chas. E. Kelly of Memorial School, Hamilton, an aggressive educationist and a real "mixer". Car No. 5 was in charge of Principal John Munro, B.A., of Stinson St. School, Hamilton, whose cheerful and indefatigable attention to the minutest details assured the comfort of his flock. Captain W. F. Moore, Principal of Dundas Public School, whose hobby is the military, and who perhaps will not mind being called



PRINCIPAL CHAS. G. FRASER
Manning Avenue School, Toronto



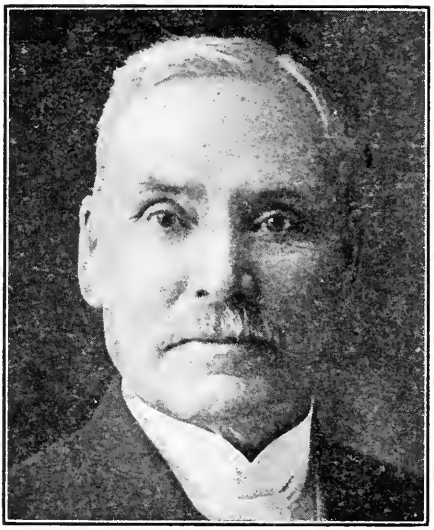
PRINCIPAL A. E. BRYSON
Cobalt Public Schools

a veteran educationist and a forceful one, was the O.C. of Car No. 6 and excellently did he perform his duties. These eight men, members of the committee on management, deserve more credit than the available space in these articles can give them. How and when they slept no one knew; they were always "on the job" and to them is due the unqualified success of the tour. Miss Annie F. Hunter of Perth Avenue School, Toronto, was in charge of the singing and Dr. B. E. Thompson of Stoney Creek was the official physician. Two of the Government "movie" photographers were also on board. In the party for all or part of the time were Inspectors C. W. Mulloy of North York, P. J. Thompson of East Middlesex, J. C. Smith of East Elgin, E. Longman of South Simcoe

L. A. Green of Algoma, W. A. Wilson of Timiskaming, D. T. Walkom of North Timiskaming, R. O. White of Parry Sound and P. W. Brown of Nipissing. Apart from the officials there were only two people on this tour who had been over the ground last year.

Accompanying the "Education Special" were the Honourable R. H. Grant, Mrs. Grant, and three of their daughters. It is wonderful to note how firmly the Minister has, in two brief years, entrenched himself in the affections and the admiration of the teachers of Ontario. Unafraid of taxpayer, trustee, teacher, or "hold-up man" if they oppose him, yet willing to co-operate with all, except the last-mentioned, if their proposals appeal to his mature good judgment, he gives himself unreservedly to the cause of education in this Province. Though he has an eye single

PRINCIPAL W. J. THOMSON
Brown School, Toronto



CAPTAIN W. F. MOORE
Principal, Dundas Public School

to the interests of education and educators, he refuses to be called an educationist. Dignified and reserved though he may appear at first sight, the teachers on this trip found him cordial and genial. Mrs. Grant, it is safe to say, made the acquaintance of practically every teacher present and performed most effectively the duties of official chaperone.

So much by way of introduction of the readers of these articles to the outstanding persons on the tour. The writer hopes that the editor will be kind enough to spare sufficient of his all too precious space for what goes before because, after all, the study of human nature is the most important of all studies and the "human interest" is the greatest of all interests.

Early on Monday morning the touring teachers wakened early (indeed, some had not slept much) and found themselves nearing Sudbury. The appearance of the landscape, rocky beyond description but with here and there a little oasis in the form of a tiny farm, proclaimed this a mining district. At the depot, the Mayor, members of the Council, of the Board of Trade, teachers, newspaper men, and representative citizens welcomed the teachers to Sudbury and led the way to breakfast. The latter formality over, the tourists entrained for Creighton where they spent the forenoon examining in most thorough fashion the greatest copper-nickel mine in the world. Note books were much in evidence and there was much technical talk of rock-formations, strata, tonnage, refining, statistics, etc. Quite evidently the teachers were on a real business trip and were taking full advantage of the opportunity to learn things at first hand.

If digression be permissible, it should be said right here that this attitude was characteristic of the whole tour. These teachers were workers and were there to learn all that could be learned. They were interested in all they saw and all they heard; they demonstrated the fact that universality of interest is an attribute of the successful teacher; but they were not averse to taking advantage also of the various pleasurable functions provided in the course of the trip.

Leaving the Creighton Mine with ore samples in their hands, the tourists returned to the Sudbury hotels and cafes for lunch and then the occupants of Cars 1, 2 and 3 went by trolley to Copper Cliff while those who resided in Cars 4, 5, and 6 were taken in motors to Coniston. In each of these places the teachers visited smelting plants and learned how copper-nickel ore is refined. As the party was coming out of the little railway coach that took them to the Coniston smelter, one of the small boys in waiting said to his companions, "Look out, there's a whole load of teachers in there".

After dinner at Sudbury in the evening the teachers left by train for Copper Cliff, an interesting little town in which there are no hotels because of the proximity of the mines. Here they were shown "movies" of the mining operations which they had witnessed during the day. From the enthusiasm which greeted these pictures it was easy to see an illustration of the pedagogical principle—first, the object, then the picture, then the printed description. Examples of the inferiority of the reverse principle were seen elsewhere. After the pictures came a dance, at which the members of the Coppercliffe Club were hosts.

The touring teachers were highly pleased with the Sudbury district. Sudbury is a good town in which to live: it has paved streets, sidewalks, modern water and sewer systems, electric lighting, interurban cars. The population is nearly 9,000. Over eighty per cent. of the world's nickel

supply comes from this district. Lumbering is the second industry while agriculture, stock-raising, and dairying have developed to proportions which surprise the visitor. There are some twenty factories and wholesale houses, good Public Schools, a High School, and a new Technical and Mining School. The future holds great possibilities for the optimistic, energetic people of this district.

(To be continued.)

Suggestions to Young Teachers

C. W. MULLOY, B.A.
P. S. Inspector, Aurora, Ont.

GRADUATES of the Normal Schools on entering the work of teaching are generally full of ambition and optimism. This is well, for they are sure to meet with unexpected difficulties and to find it hard in real life to carry out their ideals. If the young teacher can be safely tided over the first year without losing her ambition or her idealism she will be fairly sure of success in the work of later years. The first year is the most trying and any help that can be given at this time will be welcomed.

The young teacher should become familiar with the Regulations, Courses of Study, Circulars, etc. The following especially should be at hand and carefully noted:

Regulations and Courses of Study.
Amendments to the Regulations 1918.
Cir. No. 58, May 1921, giving Literature Selections.
Cir. No. 39, The Courses in History, Geography, etc.
Cir. No. 14, Text Book Regulations.

There should be in each school a full set of the Public School Manuals from which the teacher should get much help.

Classification of Pupils. Many young teachers seem to be weak in knowing how to classify their pupils. This is not to be wondered at. But as proper classification is all important, it should not be neglected. Teachers usually accept the classification found on entering the school as if they had no authority to change it. This is not so. The teacher in charge is responsible for the classification of her pupils, subject only to the authority of the Inspector.

By examining the Registers for the past year or two, each pupil's school record should be found, the time he has spent at school, and the length of time in each class. Then the teacher should remember that the Public School course is, for the average child, an eight years' course

from Primer to High School Entrance; giving, say, Primer $1\frac{1}{2}$ years, First Reader 1 year, Second Form $1\frac{1}{2}$ years, Third Form 2 years, Fourth Form 2 years. Thus if a child entered school at five its age would be Primer 5-$6\frac{1}{2}$ years, First Reader $6\frac{1}{2}$-$7\frac{1}{2}$ years, Second Form $7\frac{1}{2}$-$9\frac{1}{2}$ years, Third Form $9\frac{1}{2}$-$11\frac{1}{2}$ years, Fourth Form $11\frac{1}{2}$-$13\frac{1}{2}$ years.

This is ample time and the majority of Ontario children can do the work in less time. Bright children can reduce the time from one to two years. Even for those who enter school at six or seven years of age the above is ample time, and the teacher must not keep children of seven with those of five for any length of time unless they are mentally deficient. If a child is of normal intelligence the teacher should aim to keep up to the limit above set. A bright seven year old child can complete the Primer and the First Reader in a single year. For subnormal children no definite limits can be laid down.

Combining Classes. One great advantage in the ungraded school is the almost constant opportunity for one grade to learn from another, and the ease with which two or more grades or classes can be combined for teaching or recitation. More advantages should be taken of this by young teachers. Care must be taken, however, not to create the impression that a senior class is being put back into a lower grade. Pupils have of necessity too much time for seat work by themselves. It is next to impossible for the teacher in the ungraded school to keep all classes fully and profitably employed all the time. Combining classes then for teaching and recitation in many subjects will bring good results.

The different sections of the Primer can be called up together, each section being taught separately, but allowed to listen to the work of the next. So too with the junior and senior sections of the other Forms. The two sections should come for recitation together each listening to the lesson of the other and in some subjects having the same lesson.

Young teachers often err in making too many divisions of their classes and so giving too little time for a good lesson to any. It is by no means wise or necessary to have two classes in each Form in all subjects and especially is there no need for two classes in the Fourth Form. For years we have combined the Junior and Senior Fourths in rural schools with the very best results.

The Time-table. The time-table of the ungraded school is usually a perplexing problem for the beginner. It would simplify the matter if the above-mentioned principle is followed. It is not necessary to give all the subdivisions of the Forms. Four Forms include all the work of the ordinary school, and the time-table need show no more than four divisions.

It would take too long to discuss the length of time to be given to

each subject and the number of lessons per week to be given in each. But this is a matter to be carefully considered. The great majority of schools spend too much time on arithmetic and too little time on reading. Reading is the most important tool subject and should be stressed from the beginning.

A pupil of nine or ten years should be able to read easily any ordinary story. Lack of ability in reading is the chief cause of poor progress in the upper grades. If reading, both silent and oral are well taught, all other subjects will become easy.

Discipline. It is difficult to give advice in the matter of discipline. Ability to organize, direct and control is largely a natural gift. The teacher must remember that success in discipline depends not on the repression of the abundant energies of one's pupils but on the wise direction of their activities. The teacher who has her work well planned, and who is careful in the assignment of seat work will find little difficulty in having an orderly school. Order should prevail in everything, in the arrangement of work, in teaching and recitations, in assembling and dismissing the pupils. Some young teachers like some mothers, fail by being too good-natured or too indulgent, or too patient, often wasting their nervous energy in needless worries that could be avoided by a little firmness or better methods.

Home influence. Every teacher should try to learn the nature of the home environment and influence upon her pupils. Not to know this is often like working in the dark. The teacher who has the sympathy and co-operation of the home has a comparatively easy task and this relationship is worth an effort to secure. In the ordinary rural section the teacher should not stand on ceremony, but should endeavour to visit the homes of the pupils. In this way she will gain the help and co-operation of the parents and be saved perhaps from many an error in dealing with her pupils.

School Visitors. Teachers, like many other housekeepers, are not fond of having visitors and as a rule have very few. The Inspector is often the only visitor during the year, and even his visit is looked forward to by the young teacher with considerable anxiety. Now this is all wrong. Let me say for the relief of the young teacher that the first and chief object of the Inspector is to encourage and help both teacher and pupils, and that his visit will be a very real help. It is a mistake too, for the teacher not to give the parents and friends an opportunity of seeing the working of her school. She should before the close of a term give a special invitation to the parents to visit the school. Any means whereby the home and the school can be brought together in the common purpose of education will surely produce good results.

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Rural School Fairs

THE season for Rural School Fairs is almost here. The boys and girls who are to take part in the parades, drills, singing and oratorical contests, or who are to place their pet animals and their garden and domestic science products in competition, are awaiting the arrival of "Fair Day" with as feverish interest as they show upon the coming of Santa Claus, or the approach of the June picnic.

The psychology of this interest is not difficult to understand. The fair gives to the school child a means of expressing the results of the mental and physical training that has occupied weeks and in many cases months of careful self-denying work in school room, garden, or kitchen. The love of competition is of course an important ingredient in the zest for the school fair. The youngest pupil is always delighted when his exhibit is awarded a prize, even though it be only a third obtained in a competition of three entries. Moralists may point out that this is stimulating selfish pride, but any visitor at a school fair who has observed the cheerfulness with which the young competitors receive the adverse decisions of the judges, will recognize the value of the training that comes from gracefully accepting defeat and from perceiving that here, as in later life, the prizes go as a rule to those who work with intelligence and persistence. The spirit of unity and the elements of co-operation are everywhere in evidence, for each pupil has an enthusiastic desire to contribute to the score of his school, and the individual self is submerged in the pride which recognizes that "Our school won first place in the field crop contests, or our school was awarded the banner for the best marching and drill". It is only nine years since the

A School Boy and his Bred-to-Lay Pullet

Department of Agriculture for Ontario conceived the value of rural school fairs for increasing the interest of the boys and girls of the province in farm life and projects. In 1912 the District Representatives organized and directed twenty-nine school fairs. The movement was successful from the outset, and two years later one hundred and forty-five fairs, representing the work of one thousand three hundred and ninety-one schools, were held. These were attended by more than ninety thousand visitors. To-day it is not unusual to find a community taking greater interest in the children's fair than in the Township fairs for adult exhibitors. This last fact shows the important influence of agricultural education in promoting unity between the school learning and the home life of the child.

In connection with these fairs a valuable opportunity is afforded the teacher to broaden his or her influence as an educator. It is essential that the exhibits of the pupils be the *bona fide* products of their own labours. The co-operation of the parents is necessary, but too much assistance or interference by parents is decidedly harmful. The teacher, even more than the District Representative, should be the supervisor and director of the pupil's work in field and garden plots. This makes it necessary for the teacher to visit the homes of the pupils. Not only will his presence influence the home life, but school-room lessons will become more effective, because the pupils have come to feel that "our teacher is truly interested in what is of interest to us!"

Assisting the Pupils to Prepare Exhibits.

The score of the school in the contests for garden and field products can usually be greatly increased by taking a little pains in selecting and preparing the specimens for exhibition.

Outline of Lesson on Selecting Garden Vegetables for Exhibits

Materials.—Two exhibits of vegetables such as beets, carrots, cabbages, potatoes, etc. One exhibit will be of good quality, the other will be inferior, and marked by the imperfection indicated below. The pupils are asked to decide which is the better, and to give reasons. This discussion, should bring out the following requisites of a good exhibit.

1. *Size.*—Specimens should be of good size, but not of over size, as this indicates poor quality or coarseness.

2. *Shape.*—Specimens of *uniform* shape look better, and this is also an indication of uniformity of variety, etc. It shows good selection of seed. Symmetry of form shows proper cultivation of the soil and good quality of vegetable.

3. *Colour.*—Brightness of colour is an indication of good quality, a result of proper tillage.

4. *Surface.*—Smoothness of surface, freedom from scars, sunburn, and fungus diseases, indicate good quality in the vegetables, and are evidences of proper care of the soil and of the growing plants. The surface should be free from dirt, soil, etc., but polishing with a brush is usually not advisable.

After discussing these points with the help of an exhibit of a certain vegetable, such as beets, ask the pupils to select an exhibit from a basket of onions or some other vegetable, and require them to give reasons based upon the previous discussion.

To the Teacher.—For specific information on the qualities of certain fruits and vegetables see: *Ontario Manual of Agriculture*, pages 101, 106; *Ontario Manual of Nature Study*, page 239; *Waters, The Essentials of Agriculture*, page 144.

Soil Experiments

When manure is spread over the fields, and rain falls upon it, a dark brown solution is formed which soaks into the soil. Does this manure solution pass through the soil and become lost?

Materials.—Four vessels such as lamp chimneys, or corn cans, with a few perforations in the bottom of each; four pieces of cotton cloth; four saucers or tumblers; sand, clay, loam; a mixture of equal parts of sand and black muck (decayed vegetable matter from a swamp or woods); clear water, and a dark brown manure solution prepared by soaking cow manure in water.

Directions.—Cover the bottom of each of the chimneys or cans with cloth and fill one of them half full of dry sand, another half full of dry clay, another half full of dry loam, and the fourth half full of the sand and organic matter. Set each vessel over a saucer or tumbler. Then pour clear water into each vessel until half the space above the soil material is filled.

Questions.—From which does the water begin to drip first? From which last? What kind of soil material has good drainage properties? From which does the greater quantity of water drip? From which the least?

Explanation.—The water which drips or percolates is called free water, or water of percolation. The water which is retained is called film water.

By planting bean seeds in soil from which the free water has been allowed to drain, and others in soil containing both kinds of water, the pupils will discover which kind of water is harmful to plant growth, and which is useful.

What kind of soil material is very likely to require tile drains? What kind of soil material is the best for withstanding very dry conditions?

What is the effect of organic matter upon the capacity of a soil for retaining film water?

Directions. (B).—After the water of percolation has passed through all four, but while the soil materials are still moist with film water, fill the space above the soils half full of the brown solution. Compare the colours of the liquids that percolate through the soil material.

Questions.—How do you account for the differences in colour? Which soil material is the poorest absorber of fertilizing material? Which the best? What effect has organic matter upon the capacity of sand to absorb? Does the manure solution become lost in the soil of our fields? What can be done to improve the absorbing properties of sand and clay soils? Is spreading manure on the surface of land in winter a good practice?

Taking Soil Samples.
Agricultural Laboratory Exercises.—Waters and Elliff.

To the Teacher.—The questions given above are intended to help the teacher in leading the pupils to draw the proper inferences from the experimental work. They are not to be assigned to the pupils.

The Round Table

The School has from the first invited subscribers to submit difficulties and to offer suggestions for consideration. Many have done so. Some of the inquiries that come in are of such general interest that perhaps a wider circle would be glad to consider the problems and the suggestions offered. Other questions or suggestions, problems or solutions of problems in school work will be welcome.

1. *"I have some difficulty in arranging a suitable time table for my class of junior primary pupils. Could you give me some suggestions?"*

PROGRAMME FOR A PRIMARY CLASS

9.00- 9.20—Morning talk and Opening Exercises.
9.20- 9.40—Sight Word drill—Seat Work.
9.40-10.00—Seat Work— Sight Word drill.
10.00-10.10—Games and Rhythmic Exercises.
10.10-10.30—Phonics— Seat Work.
10.30-10.45—Seat Work— Phonics.
10.45-11.00—Recess.
11.00-11.20—Reading from B.B. —Seat Work.
11.20-11.40—Seat Work— Reading from B.B.
11.40-12.00—Number Work— Seat Work.
1.30- 1.50—Seat Work— Number.
1.50- 2.10—Reading from Primer—Seat Work.
2.10- 2.30—Seat Work— Reading from Primer or B.B.
2.30- 2.40—Recess.
2.40- 3.00—Story Telling and Language Training Exercises.
3.00- 3.20—Writing or Art, or Manual Training.
3.20- 3.30—Closing Exercises and Dismissal.
3.30- 4.00—Individual help to backward pupils.

Inspection of Seat Work after each period takes some of the time allowed for a period.

2. *What changes have been made since last June in the Ontario High School history courses?* Upper School history is now Modern European from 1603 to 1885 (see page 75 of the H.S. Regulations of 1914.) Middle School history for both Normal Entrance and Pass Matriculation is British History 1763-1885 and Ancient History as defined in the regulations of 1914. Lower School Canadian history and civics have not been changed. Details of the courses in history will be revised for the school year 1922-23.

3. *Is there a new Ontario text-book in civics?* No.

4. *What H.S. Composition text is authorized?* A new composition is authorized and will be on sale early in October. The old book in use last year may still be used this year in any High School, if the school board passes a resolution authorizing its use for the year 1921-22.

5. *What is the status of oral reading under the new regulations?* Oral reading is no longer a separate subject, and there will be no examination in it. It is now a part of the work in literature, and should be an accompaniment of work in other subjects such as history and geography. No special reader need be used. The best material for oral reading is the literature just studied in class, or supplementary reading in history and

geography. The so-called principles of reading should be taught only incidentally, and technical names should as a rule be avoided. If a child understands a selection thoroughly, and has an adequate motive for reading well, he will need little help from the teacher.

Seat Work

M. ISABEL WILSON
Ryerson Public School, Toronto

PRIMARY teachers must solve a double problem. They must not only teach the children how to read, write and number, but they must also teach them how to study independently, so that they may be prepared to use books themselves.

Modern teachers endeavour to fill every hour of the child's school life with happy, helpful and active work. They have learned that the child's growth is dependent upon right activity and that the teacher's function is to provide occasions for such activity. They have come to know the truth that it is the child's deed which makes him master of the idea which has been impressed. Expression is the vital element. His activity and not ours alone, is the essential factor of his growth.

The busy work programme then, thoughtfully considered is no mere list of devices for maintaining a quiet room; it represents a thoughtful provision for the actual needs of the children. Rightly planned, it gives suitable tasks by means of which the child tests his knowledge and skill, applies the new knowledge or weaves the new idea into his expression.

While the child sees the accomplishment of his work and is delighted with the apple he has cut or the beads he has strung, the teacher sees the fuller fruition. She sees the patience which results in greater power in doing and ability to persevere. Clearness of vision and power to execute grow from such simple exercises.

Each teacher needs to prepare the seatwork suitable to her own class. She knows their need.

In September SCHOOL a number of hints were given and the following may give further help.

Folding paper;

1. Fold and cut along straight lines. 2. Fold and cut squares and oblongs. 3. Fold and cut circles. 4. Make pinwheels from squares. 5. Fold and cut strips of paper into halves, fourths, etc. 6. Fold and cut hats and dresses for dolls. 7. From the sixteen squares that a larger square has been folded into, fold a barn, a house, a basket, a box, and a table.

Cutting;

1. Trace around a pattern and cut out the figure. 2. Cut pictures from papers. 3. Cut designs which have been folded. (Fold a square of paper on the diameters and diagonals, then fold again. Cut a small piece out of the sides, open up and the children are delighted with the variety of design they have). 4. Cut on straight lines which have been ruled, thus learning to cut on a line. 5. Cut and dress paper dolls. 6. Cut pictures of fruits and flowers from seed and vegetable catalogues. 7. Cut free hand from paper forms of animal or vegetable life. 8. Cut freehand to illustrate familiar stories. 9. Trace and cut the animals mentioned in the Reader.

Stringing;

1. String beads, arranging the colours and forms. 2. String in twos, threes, etc., using given colours. 3. String seeds and nuts.

Plasticine;

1. Model fruit, objects mentioned in the Reader, balls, flowers, etc. 2. Illustrate a story.

Newspaper or Magazines;

After giving each child a column of newspaper have them: 1. mark the printed letters, *e.g.*, mark or prick with a pin all the *a's*, *t's*, *m's*. 2. Mark all the words they know and can name. 3. Mark words of two letters, three letters, etc. 4. Mark words beginning with capitals, or words beginning or ending with a certain letter or letters. They are testing their knowledge, and learning to work independently. They are mentally alert in doing this work so that it has a value.

Pictures;

Each child is given a small picture. 1. Draw one thing to be seen in the picture. 2. Name two or three things and write a sentence about the picture.

Question and Answer;

Write several questions about the reading lessons and pupils write the answers. The following were asked about "the Clever Dog" in the Ontario Reader. "Why did the little dog go to the doctor?" "Who took him to the doctor?" "How was he hurt? How was the big dog hurt? What did the little dog do for the big dog? Do you like these dogs?

Hints and Helps

1. Quotation for October:

"Children should be taught how to work independently. The best teacher is the one who is striving constantly to render her services unnecessary."—Geo. D. Strayer.

2. Games for October:

(1) Riding Game—We pretend we have a ride in the following by supplying the missing letters and writing a sentence for each word: s-ip (ship), c-r (car), wagg-n (waggon), c-noe (canoe), t-a-n (train), ca-t (cart).

(2) Initial Letter Game.—The teacher starts the game by giving a phonogram, *e.g.*, "and". Each child gives a word like it by adding an initial letter as (*a*) band, land, sand, stand, grand. (*b*) End, bend, lend, rend, tend, spend, wend, blend. (*c*) Eat, beat, feat, heat, meat, neat, peat, seat, wheat, etc.

Problems in Primary Rooms

The Unlikable Child.—Have you ever experimented with the unlikable child? Almost every group of children contains one child that does not appeal to anyone. Do you pass him over or do you give him a little extra attention? Many, slow sluggish, uninteresting, unattractive children are passed over by every one, including parents, brothers and sisters, in many cases. A little attention given by the teacher meets with a ready response because it is new to him. At first, let him help with dusting the erasers, putting books in order or passing papers. Pick out his good qualities. Often he has not known he had any. You soon become interested in him and he has acquired self-esteem. He becomes more alert and interested. In most cases this little attention helps to make the unattractive, attractive.

(Teachers are invited to send devices, games or problems for "Hints and Helps".)

Simplifying the Teaching Programme in Rural Schools by Combining Classes*

T. W. STANDING, B.A., I.P.S.
Brantford, Ont.

THERE are two important reasons why the Education Department should consider rural and urban schools separately when preparing courses of study and providing series of text-books.

First, there is the difference of environment, and second, the difference of organization. If all rural schools should at once become consolidated into large, fully graded schools, the difference in organization would practically disappear and only the problem of environment would

*A Paper read before the Inspectors' Section of the O.E.A.

remain. A great deal of interest is being taken in the movement for consolidation at the present time and its outlook for the future is promising. But its progress can not be expected to be rapid at first. Perhaps at the best we may expect the one- or two-teacher schools to remain as the prevailing type of rural school for another quarter of a century.

In any case, they will be numerous enough to require separate consideration by the Education Department. If, by any reasonable measures the efficiency of those non-graded schools can be increased those measures ought to be taken at once. In this paper, I intend to confine myself to improved organization of the teaching programme, with text-books adapted thereto, as a means of increasing the efficiency of the non-graded rural school. The fact that urban schools are fully graded and have a teacher for each of the eight grades while the small rural schools are expected to obtain equivalent results with one teacher for all the grades, is a sufficient reason for dealing with the two classes of schools separately in the provision of text-books and courses of study.

Dr. Silcox last year discussed with us briefly the rural school time-table and submitted a draft of one that he recommended for young teachers to start with. It is simple in statement and it is comprehensive, yet I cannot help feeling that its simplicity is only that of statement or form.

Its well-arranged and flexible programme would no doubt, help the teacher to go at her week's work in an orderly way but it would leave her still confronted with the problem of many classes to teach and much seat work to provide and supervise in a very limited time.

Look at the following material out of which a weekly teaching programme is to be made. (See page 82).

This table shows that the rural teacher who tries to cover the full programme will require to teach about 165 lessons each week—an average of 33 per day. This can be done—it has been done—at the rate of 10 minutes for each lesson including time for assignment of work and change of classes.

I believe it can be done much better and with immeasurable relief to the teacher by an improved method of combining certain classes for teaching purposes. But to be fully effective the plan would have to be province-wide. One school for itself, or even one inspectorate by itself would be at a serious disadvantage in adopting and carrying on such a scheme. The text-books and the courses of study should be adapted definitely to the needs of these schools, and uniformity of practice is desirable for the sake of those who move from one school to another as well as on account of changes of teachers. The plan I wish to outline is not new either in principle or in practice although no advantage has been

taken of it to improve teaching conditions in the rural schools of Ontario, as far as I am aware. It has been used in the smaller High Schools to enable them to do Upper School work. Parts I and II of the Faculty Entrance course are taken in alternate years. By this plan, only half the teaching time is required but pupils may cover the course in two years as well as they could in the larger Collegiate Institutes.

Subject	No. of Classes	Length of period	Number of periods	Classes per wk.	Number of minutes per wk.
Reading and Lit.	7	65	5	35	325
Writing	2	15	4	8	60
Spelling	5	35	3	15	105
Composition	5	35	2	10	70
Geography	5	30	3	15	90
History	4	30	3	12	90
Arithmetic	7	60	4	28	240
Grammar	2	30	3	6	90
Hygiene	5	30	3	10	60
Nature Study	2	20	3	6	60
Art	2	30	2	4	60
Vocal Music	1	8	5	5	40
Physical Trg.	1	8	5	5	40
*Agr. and Hort.	1	30	2	2	60
*H. Sci.	1	30	2	2	60
*M. Trg.	1	20	2	2	40
					1,490
Opening exercises and time for supervision					160
Total					1,650

A. W. Nolan in his book "The Teaching of Agriculture", in discussing how this subject can be fitted into the programme of elementary school studies says: "In most cases it has been found best to give this work to the combined seventh and eighth grades, divided so as to provide two years of work and given in alternate years". And again in connection with High School organization, he says: "Even when only one year at a time can be given to agriculture, secondary school men are preferring to give one year to plant industry, and one year to animal husbandry in alternating years rather than to give the one year general course with its encyclopaedic hodge-podge of everything pertaining to agriculture".

Now, if the Senior and Junior fourth grades can be combined for a two-years course in agriculture taken in alternate years, why can not

practically all the two-year fourth form courses be organized into parts I and II that may be taken in alternate years? And further, why could not the same thing be done for the junior and senior third classes? At the present time, our courses in history may be treated in this way by making Canadian history part I and English history part II. Geography does not admit of so simple a division but the course could easily be arranged in two parts such that either may be taken first and followed by the other. Possibly certain fundamental topics would have to be common to both parts.

In reading and literature, with the aid of the text-book editor, I am sure the plan would work admirably. Instead of the present Third and Fourth Readers and Third and Fourth Golden Rule Books, let us have two Third Readers nearly equal in range and in difficulty—and likewise two such Fourth Readers. And let me digress here to say that as a rule readers do not give enough practice in comparatively easy reading. They keep presenting fresh difficulties in a most discouraging way for average pupils. A writer in the *Elementary School Journal* expresses this thought forcibly as follows: "I thoroughly believe that everything that a pupil is required to read should be so written as to require the least possible effort to be understood. Is not that the accepted standard among those who write for mature men and women? Why should the young mind be the innocent victim in the violation of all the laws in the economy of attention? Difficult language is not necessary to his mental growth. He grows by understanding, not by misunderstanding. If his reading matter is properly graduated to correspond to his mental growth, his mind will have abundant opportunity for healthful exercise".

Such a series of readers would make it easy to follow a similar plan with composition and spelling. Even if a spelling book is necesasry, and I think it is, it too, could be written so that all the third form words would be placed in two parallel lists or parts instead of in junior and senior groups. The fourth form work also could be arranged in a similar way into parts I and II that could be taken in alternate years.

One might suppose that arithmetic is a subject that would not lend itself to this method, but an examination of the courses for third and fourth forms shows that in both forms the work may be divided into two parts which may be taken in alternate years.

The following division includes the work now prescribed for these forms.

THIRD FORM

Part I	*Part II*
Review of simple rules	Review of simple rules
Bills and accounts	Factors, measures and multiples

THIRD FORM—*Cont.*

Part I

Tables of money, time, length, capacity, weight, area, volume
Reduction and the Compound rules
Perimeters and areas of rectangles, volumes of rect. solids

Part II

Vulgar fractions and mixed numbers
Addition, subtraction, multiplication and division of fractions
Simple percentages—their relation to fractions
Personal and cash accounts
Measurement of length, area and volume
Perimeters and areas of rectangles, vols. of rect. solids

FOURTH FORM

Part I

Review
Terminating decimals
Applications of percentage: commission, loss and gain, trade discount
Problems on perimeters and areas of rect. figures and rt. angles triangles, and the surfaces and volumes of rectangular solids
Business forms
Practical problems

Part II

Review
Terminating decimals
Application of percentage: Insurance, taxes, S. int. and bk. disc.
Simple cash accounts, showing revenue and expenditure and bank accounts showing deposits and withdrawals
Business forms
Practical problems

It is not necessary to go into further detail regarding the various subjects except to say that possibly grammar for the fourth form could not easily be divided into two yearly courses independent of each other, hence in this subject the senior and junior fourth would have to be taught separately.

I am not advocating this plan without having made a partial test of its efficacy in my own inspectorate. For two or three years I have sent to the teachers circulars suggesting a rough division of the subjects into Parts I and II and recommending that the junior and senior third classes be combined into one for teaching and likewise the junior and senior fourth; that Part I be begun in September of the odd numbered years and Part II in September of the even years.

This for the purpose of keeping all the schools at the same part in the same year. Even with this purely local system and without having textbooks or courses of study adapted to it the advantage of the plan appealed strongly to the teachers, many of the best of whom have assured

me that it has been of great assistance to them in getting through their teaching programme. I have always recommended rural teachers to cover the whole of the second form work in one year so as to reduce the eight grades to seven, which practice has, I believe, been adopted also in some city school systems. Thus, the teacher by the combination of classes recommended above would have only the primer, the first, second, third and fourth classes for which to construct a teaching time-table. Instead of being a distracting Chinese puzzle, the making of the time-table becomes a comparatively simple problem, and much more effective teaching is possible.

It must be noted that this combination of classes does not tend to hurry pupils through a two years course in one year as the old method of combination does, but every pupil normally passes through his junior and senior years in the third form and through his junior and senior years in the fourth form. One class takes Part I of the form work the first year and Part II the next. The succeeding class will begin the form work with Part II and complete it the following year by taking Part I. Such then, briefly, is my plan for simplifying the teaching programme in the one-teacher school—a plan which would increase the efficiency of those schools enormously.

But, as I said at the beginning, it should be adopted by the whole province to make it effective, the course of study should be adapted to it, and specially prepared or selected text-books are needed. If this department thinks the idea is worth following up, might not a committee be appointed to indicate suitable modifications in the course of study and make recommendations regarding a desirable series of text-books.

A High School Time-table

HIGH SCHOOL principals amending their programmes to conform to the new courses of study will be glad of a chance to compare their programme with that of other schools. Thanks to the kindness of Principal Sliter of the Kingston Collegiate Institute, we are able to reproduce herewith the time-table of a large Collegiate Institute as now in use. While, apparently, this time table is based on half-hour periods, it will be observed that in nearly every subject, half or more than half these periods are arranged so as to give two periods in one subject consecutively, thus giving practically hour instead of half-hour periods. In this time-table Classes 1A amd 1C are preparing for the Lower School examination. 2A contains Second Form pupils who are writing on the Lower School examination. The D forms are commercial. The time-table is not quite complete as regards gymnasium spaces, it having been necessary to change gymnasium arrangements at the last moment.

A High School Time-table—Monday, Wednesday and Friday

	9.00-9.30	9.30-10.00	10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	1.30-2.00	2.00-2.30	2.30-3.00	3.00-3.30	3.30-4.00
1A	Eng.	Eng.	Alg.	Alg.	Bot.	Bot.	Lat.	Fren.	Art.	Art.	Hist. & C.
1B	Gym.	Lat.	Eng.	Eng.	Fren.	Fren.	Alg.	Alg.	Gym.	Hist. & C.	Bot.
1C	Art	Art	Hist. & C.	Bot.	Alg.	Alg.	Eng.	Eng.	Lat.	Lat.	Fren.
1D	Eng.	Eng.	Gym.	Hist. & C.	Gym.	Book	Type	Short.	Arith.	Writ.	Fren.
1E	Gym.	Hist. & C.	Fren.	Fren.	Alg.	Alg.	Gym.	Bot.	Eng.	Eng.	Lat.
2A	Gym.	Fren.	Phys.	Geog.	Eng.	Eng.	Lat.	Gym.	Arith.	Arith.	Geom.
2B	Physiog.	Gym.	Lat.	Lat.	Fren.	Fren.	Arith.	Germ. Gym.	Eng.	Eng.	Geom.
2C	Math.	Gym.	Eng.	Eng.	Lat.	Lat.	Phys.	Arith.	.....	Fren.	.....
2D	Fren.	Fren.	Eng.	Eng.	Book-k'g	.....	Bus. Forms	Gym.	Shorth'd	Gym.	Arith.
2E	Arith.	.....	Math.	Math.	Eng.	Eng.	Fren.	Lat.	Phys.	Gym.	Gym.
3A	Lat. Grk.	Lat.	Fren.	Fren.	Eng.	Eng.	Math.	Math.	Sci.	Sci.	Hist.
3B	Sci. Ger.	Sci.	Hist.	Hist.	Math.	Math.	Eng.	Eng.	Fren.	Fren.	Lat.
3C	Hist.	Hist.	Eng.	Eng.	Math.	Math.	Sci.	Sci.	Lat.	Lat.	Fren.
3D	Book-k'g	Book-k'g	Shorth'd	Shorth'd	Eng.	Eng.	Hist.	Fren.	Fren.	Arith.	Com. Law
4A	Eng.	Eng.	Sci.	Sci.	Lat.	Lat.	Math.	Math.	Fren.	Hist.	.....
4B	Math.	Math.	Lat.	Gym.	Sci. Ger.	Sci. Ger.	Fren.	Fren.	Hist.	Eng.	Eng.
5	Fren.	Lat.	Math.	Math.	Eng.	Eng.	Hist.	.....	Sci. & Math.	Sci. & Math.	Sci.

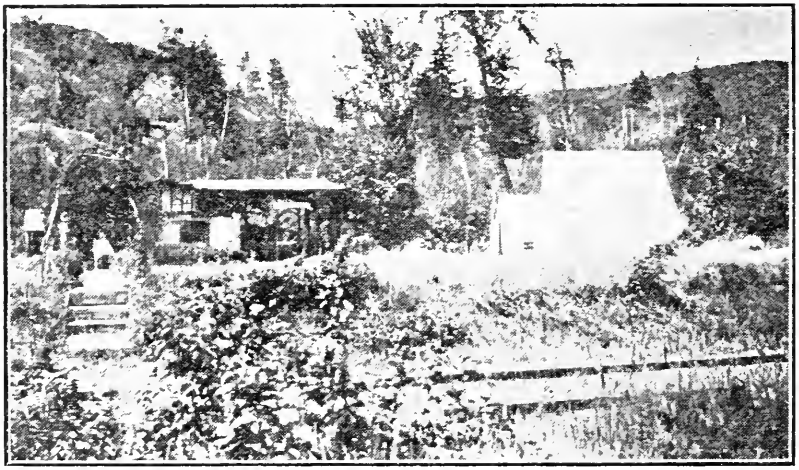
A High School Time-table—Tuesday and Thursday

	9.00-9.30	9.30-10.00	10.00-10.30	10.30-11.00	11.00-11.30	11.30-12.00	1.30-2.00	2.00-2.30	2.30-3.00	3.00-3.30	3.30-4.00
1A	Alg.	Fren.	Fren.	Hist.& C.	Eng.	Eng.	Bot.	Bot.	.....	.....	Lat.
1B	Fren.	Gym.	Hist.& C.	Bot.	Alg.	Alg.	Eng.	Eng.	Lat.	Lat.	.....
1C	Fren.	Fren.	Alg.	Alg.	Bot.	Bot.	Lat.	.....	Eng.	Eng.	Hist. & C.
1D	Book-k'g	Short.	Eng.	Eng.	Type.	Hist. & C.	Type.	Type.	Arith.	Fren.	Fren.
1E	Lat.	Lat.	Eng.	Eng.	Hist. & C.	.....	Alg.	Alg.	Fren.	Bot.	.....
2A	Eng.	Eng.	Phys.	Lat.	Art.	Art.	Arith.	Arith.	Geom.	Fren.	Geog.
2B	Arith.	.....	Lat.	Ger.	Eng.	Eng.	Fren.	.....	Geom.	Geom.	Phys.
2C	Lat.	Arith.	Eng.	Eng.	Fren.	Fren.	Gym.	.....	Phys.	Geom.	Geom.
2D	Type.	Fren.	Book-k'g	Writ.	.....	Type.	Eng.	Eng.	Short.	Bus. F.	Arith.
2E	Eng.	Eng.	Geom.	Geom.	Lat.	Lat.	Fren.	Fren.	Arith.	Phys.	.....
3A	Sci.	Sci.	Eng.	Eng.	Math.	Math.	Hist.	Gym.	Fren.	Lat.	Gym.
3B	Eng.	Eng.	Math.	Math.	Fren.	Grk. Germ. Gym.	Lat.	Lat.	Hist.	Sci.	Sci.
3C	Math.	Math.	Fren.	Fren.	Eng.	Gym.	Sci.	Sci.	Lat.	Hist.	Gym.
3D	Eng.	Eng.	Type.	Type.	Shorth'd	.....	Book.	Writ.	Fren.	Arith.	Type.
4A	Fren.	Fren.	Sci.	Sci.	Lat.	Hist.	Math.	Math.	Gym.	Gym.	Eng.
4B	Math.	Math.	Eng.	Eng.	Sci. Germ.	Sci. Germ.	Fren.	Lat.	Lat.	Gym.	Hist.
5	Sci.	Sci.	Lat.	Lat.	Math.	Math.	Eng.	Hist.	Sci.	Fren.	Fren.

Suencla Camp

CORA R. L. FISHER
Sudbury, Ont.

SUENCLA CAMP—rather a clever name we thought as we evolved it from our class, Sudbury Entrance Class. How did we come to have it? Well, you see, the cadets were going to camp at Niagara, and naturally the girls felt peeved that once more boys were getting the best of the deal, so they asked me if I would chaperon them, if they could get a camp. I said yes, never dreaming they could get the camp; but I reckoned without my girls. When they came in after the recess period, they had it all arranged. Of course it took many recess periods to get all details arranged, but they gladly gave up their beloved basket-ball



SUENCLA CAMP

in order to accomplish it. July 3rd saw us getting up at the unearthly hour of 3.30 a.m., as our train left at 5.05 a.m., and the C.P.R. waits for no man—although it did slow up for one of our chaperons (I had enlisted the services of another teacher and a "layman"). Our camp was situated at mileage 46 on the A.E.R. and on the Spanish River. We, and our luggage, no small item let me assure you—arrived safely and we were deposited right in front of our camp. Then began the task of setting up camp, and the girls went energetically about it, even to the putting up of the tents.

The camp routine was divided up and each girl had her share. Some

shone in the kitchen—some didn't; but we were *always* glad to eat *whatever* came to the table. Camp appetites are not finicky, and our crate of eggs, sides of bacon, and bag of potatoes disappeared rapidly. We surprised the baker at Espanola, by ordering 6 loaves of bread a day. But maybe he didn't know there were fourteen of us.

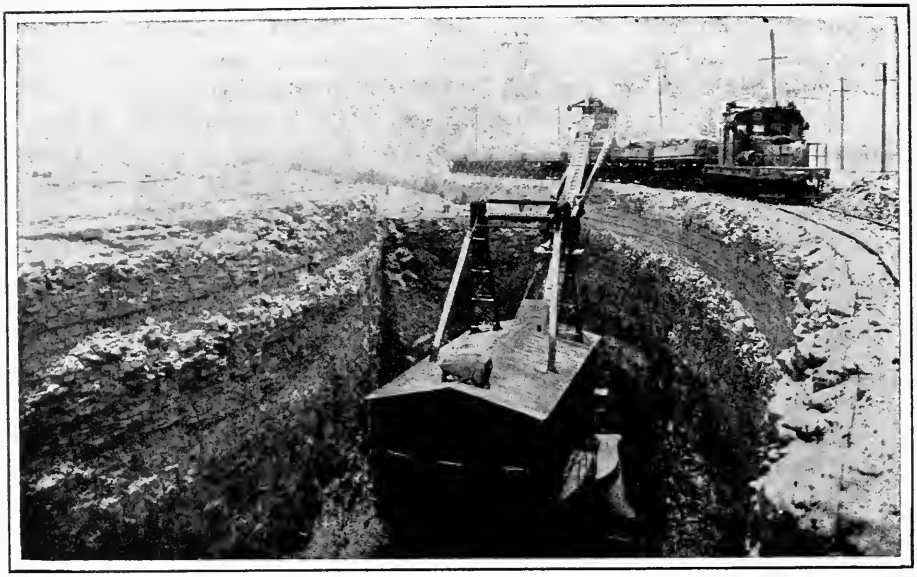
We arose at 7 a.m. to the sound of a referee's whistle (most familiar to the girls). It was too hot for hikes, but the time passed rapidly with the morning dip, physical drill, camp work, reading, blueberrying, and meals. Each day a chronicle of the day's doings was kept by a different girl, and read each night after the evening dip, and while the smudges were doing their benevolent work. Oh, yes, there were mosquitoes there, fine healthy ones too. At 9.30 lights were out, at least figuratively speaking; in reality we had only a few candles, and a flashlight for emergencies.

The chronicles, as a rule, made good reading. The girls felt in duty bound to adhere to the fundamentals of composition; but relaxed enough to put in touches of originality, as in the case of the one who said that "we spent an enjoyable evening playing tag with the mosquitoes—they also rendered us some of the latest jazz music". They even aspired to poetry, which passed muster with the uncritical audience. We are having the chronicle printed and kept as a souvenir of a delightful ten days.

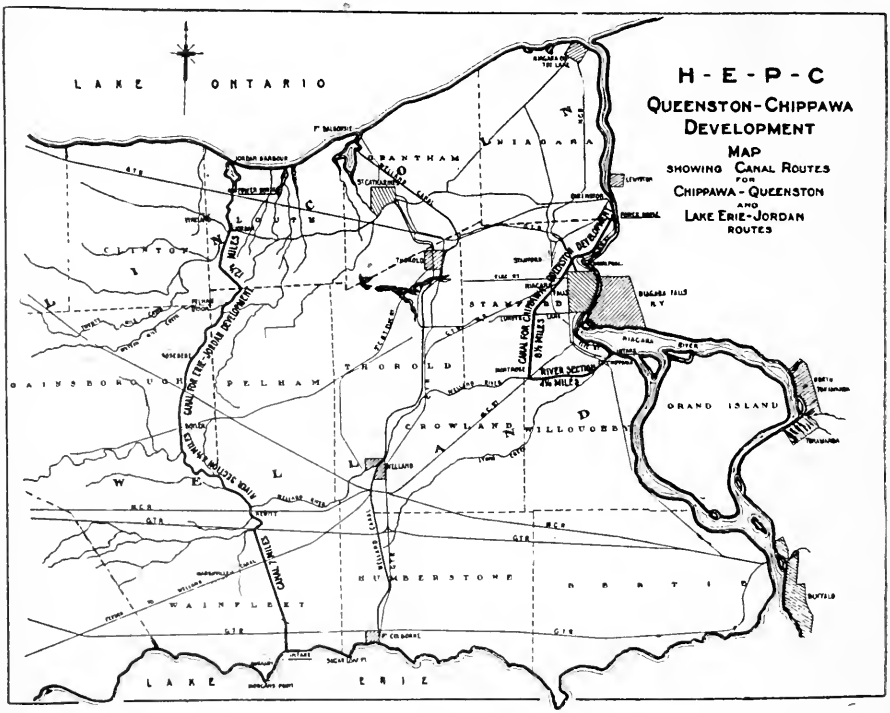
Every one seemed truly sorry when the last day appeared, but the sorrow was mitigated somewhat by the resolution passed unanimously that the outing should be repeated next year—"but for no measly ten days"—a quotation please notice. And might I just add, that such an outing gives a teacher a wonderful insight into the girls' characters, and a wonderful chance to make impressions—no, not by precept—that will last a life time. Here's hoping for as profitable and pleasant a time next year.

Current Events

The Chippawa Canal or more correctly the Queenston-Chippawa Canal, is nearing completion. The Canal, which has been largely cut out of solid rock, leaves the Niagara River at the Chippawa River above the Niagara Falls and delivers the water over the edge of the escarpment a short distance above Queenston. All other power stations utilize only the drop at the Falls itself, but the present canal allows to be utilized not only the drop at Niagara Falls, but also the drop of all the rapids both above and below the Falls. In other words while in other installations the water drops about 180 feet in this installation



THE CHIPPEWA CANAL *Courtesy of the Hydro Electric Commission*



the water drops over three hundred feet. Thus every pound of water in this undertaking gives almost twice the electrical power of any other Niagara power house.

Since electrical power is cheaper than coal, this immense increase to the available power in Western Ontario is bound to attract many industrial establishments, and to give a great impetus to the use of electricity on the farm and in the home.

Making Literature Live For Your Child

JULIA W. WOLFE
50 West 36 St., New York

"OH yes, Goldsmith; we had him the first year in High School. I remember because I had to make an outline of his life that was ten pages long. I just worked hours on it and the teacher said it looked very neat. Oh, yes, I remember Goldsmith all right". It was a bright-eyed girl's answer to the question: "Do you know Goldsmith?" put by a woman of culture who was entertaining some of the high school students.

"And did you not find Goldsmith's Vicar a delightful old fellow?" the hostess continued.

"Well", the girl faltered, "I suppose so"; then more frankly, "really about all I can remember is how he used to moralize two or three pages at a time. His speeches were full of horrid long words that we had to look up and put in our notebooks".

"But didn't you think he had an amusing way of poking fun at Livy and Sophia's little vanities?" the hostess tried once more.

"To tell the truth, Mrs. Deane", the girl continued, "the teacher used to say so, but it seemed just stupid to me. I know now it's a classic but it's the plain truth as far as I am concerned".

"Perhaps you like Scott better?" Mrs. Deane questioned, appealing to the group as a whole.

"The Story of the Lady of the Lake was rather good. I liked the part about the ring, but poetry's so hard to understand. The teacher laughed when I asked her if I could not get a copy in prose", a charming, dreamy-eyed girl replied.

"Then you must like Scott's novels better", the hostess remarked.

"Did he write novels?" inquired the girl incredulously. "Oh, Ivanhoe, I'd never think of calling that a novel. It was all about castles and queer kinds of swords. You couldn't remember the names half the time, and I didn't understand the English history".

Mrs. Deane sighed a little. She was thinking of a little girl sitting under the rafters in an old attic, her eyes red with weeping over the trial of Rebecca and the Lady Rowena, her ears deaf to peals of the supper bell from below. She made another attempt.

"Dickens wrote of the everyday people. Don't you like his books?"

It was the first speaker again, the bravest of the girl group, who answered now. This time she spoke a trifle apologetically. "You see we don't have much time with all our studies to really enjoy books. I had to do one of Dickens' works in high school and it took just ages. It was David Copperfield, I think".

With one voice the group chimed: "Oh, Dickens is so fearfully long!"

"But what do you read?" the hostess exclaimed involuntarily.

The silent tongues were loosened. Title after title of the latest "best sellers" fell upon Mrs. Deane's ears. "But how do you find time to read all these?" she inquired of the much-pressed-for-time young woman. "I have seen some of them in the circulating library windows and most of them are good-sized books".

A little abashed the latter replied: "But you see, Mrs. Deane, these aren't classics. They are interesting. Does anybody ever read the classics for pleasure?"

. . . . . .

Does your daughter, who has just begged for a few more inches on the bottom of her skirt, smuggle into the house a tattered volume of "Marjorie's Sin", which she devours secretly from behind the covers of her Latin Grammar. Or does she bring from the public library Jane Austin's "Sense and Sensibility", and proceed from the depths of the Morris chair to chuckle over the affairs of the Bennet family?

Do you extract from under the mattress of the room of your son, who still treats his sister's friends with the utmost indifference, a cheaply bound copy of "Tireless Tim, the Train Wrecker", which bears the signs of more than one reading? Or does your son concentrate his whole attention on the difficult Algebra lesson to have time to descend into the wonderful cave of the Count of Monte Christo before bedtime?

If the boy and girl prefer the kind of reading that retails for not more than ten cents, what is the reason?

These boys and girls have just entered high school. They are taking, perhaps, during their first year the careful study of literature. The course includes for the first year the intensive study of four to ten books, with the addition of three or four more for outside reading. The books vary slightly from year to year to follow lists of the college entrance requirements. The list may include Scott's "Lady of the Lake", Mrs. Gaskell's "Cranford", Goldsmith's "Vicar of Wakefield", a translation

of the "Odyssey", Stevenson's "Treasure Island", Shakespeare's "Merchant of Venice", and Dickens' "Tale of Two Cities".

If the school is a small one, these books are selected from the lists which the college entrance examinations require to be read, so Robert, who expects to follow in his father's footsteps and become a college instructor, has just the same training as George, who hopes to help his father in the grocery store. In a larger school, where the elective system prevails, Robert and George may choose different courses, but even then in the English classes the college entrance requirements often form the basis of the English reading. This happens because the board of college examiners has selected the works which are recognized as the finest examples of English literature. And surely there is not the slightest reason why George, the future grocer, should not read the best literature as well as Roger, the boy who will be given an A.B. or an A.M. Both are introduced to Scott, to Goldsmith, Stevenson, Addison, and perhaps others, during the first year of the high school.

So far as the material goes, then, your boys and girls are furnished in school with the best in the way of literature. Why do they prefer the worst?

The teacher has worked out a careful plan for the presentation of each classic. Suppose, for instance, Scott's "Lady of the Lake" is to be taught. She tries first of all to create the Scotch atmosphere. She brings into her classroom all the pictures she can collect of the beautiful Scotch highlands. If she or some of her friends have visited the region, she has a score of postcards to show. At first she dwells lightly on the historical setting of the poem, but in order to understand the story the children must know how Douglas was banished by King James the Fifth, and had to live in exile with his beautiful daughter, Ellen; how the Highlanders and the Lowlanders were continually quarrelling; and how King James liked to wander about the country in various disguises. Then comes a rapid reading to get well in mind the romantic tale of the disguised king's infatuation for Ellen, the jealousy of Rhoderick Dhu, the leader of the Clan Alpine, who rose against the king's forces, and the final denoument—Rhoderick's death, the king's generous pardon of Douglas and his renunciation of Ellen to his rival, Malcolm Graeme. Lastly comes the analytic study of the poem, which includes a knowledge of the difficult words and allusions to curious customs and to history.

What is there in this study to make your daughter turn from it with a shudder and plunge into the depths of her novel, and your son into the wild deeds of "Tireless Tim?"

To be ready for the entrance examinations the teacher must put the boys and girls through their paces, studying the historical and literary allusions. If George can't tell whether Ben Venue is north, south, east

or west of Loch Katrine, or what a snood is, the school principal or inspector may criticize the teacher's method as careless or slipshod. Classics, the child thinks, are to study, not to read for pleasure.

The boy who feels his own love of the dare-and-do-Tim variety of fiction can have this normal boy hunger of his satisfied in a legitimate way by novels which are at the same time classics. Robert Louis Stevenson's "Treasure Island" is a pirate story in which there are real pirates and yet no profanity; in which there is a mystery and excitement enough to arouse the most voracious reader of news stand, paper-covered, fiction, yet no unsuitable or unwholesome suggestion. And the boy who begins with "Treasure Island" will want to go on and read "Kidnapped" and "David Balfour". If he is at the real blood-thirsty age, Scott will appeal to him. Dickens' "Tale of Two Cities" will hold him spellbound and Cooper—what boy does not love Indians?

Boys and girls of the same age are much alike the world over. Every boy in the adolescent period longs to see himself as a hero of some kind; the girl is reaching out toward that mysterious world in which romance reigns supreme. The school, in spite of its limitations, must do its best to form the literary taste of its pupils. It is the teachers who must create a real love of literature. Real literature must be taught them in the beautiful way, and then Dickens and Scott will not seem dry and uninteresting.

Problems in Mathematics

PROFESSOR J. T. CRAWFORD
Ontario College of Education

4. If n points, in general positions in a plane, are joined in all possible ways, find the number of intersections exclusive of the given points.

A solution of this problem was given in the September number. A subscriber has sent in two other solutions. We invite teachers of mathematics to examine them and give us their opinion as to their validity.

(1) The lines formed by joining four points in all possible ways will intersect in 3 points exclusive of the four points. Therefore the number of points of intersection of the lines joining n given points will be 3 times the number of combinations of n things 4 at a time or $\frac{1}{8}n(n-1)\ (n-2)\ (n-3)$.

(2) Let $f(n)$ represent the required number of intersections. If $n=0$, $f(n)=0$ and therefore n is a factor of $f(n)$. If $n=1$, $f(n)=0$ and therefore $n-1$ is a factor of $f(n)$. Similarly $n-2$ and $n-3$ are factors. When $n=4$, $f(n)=3$. Therefore $f(n)=kn(n-1)\ (n-2)\ (n-3)$, where k is a constant. Therefore $f(4)=k\times 4\times 3\times 2\times 1=3$. Therefore $k=\frac{1}{8}$. Therefore $f(n)=\frac{1}{8}n(n-1)\ (n-2)\ (n-3)$.

5. If n is a positive integer and x a positive number less than 1, show that as n is assigned increasing values a point must be reached when x^n has a value which differs from zero by any given number however small.

In our High School texts the truth of this theorem, which is first used in finding the sum of an infinite geometric series, is usually accepted without formal proof after being examined in particular cases. Using the binomial theorem the proof is not difficult.

When a is positive and n is a positive integer, the first two terms in the expansion of $(1+a)^n$ are $1+na$ and since all the terms in the expansion are positive it follows that, $(1+a)^n$ is greater than na. Now by increasing the value of n, while a remains constant, the value of na, and therefore of $(1+a)^n$, may be made greater than any assigned number however large. If x is positive and less than 1, let $x=1/1+a$, then $x^n=1/(1+a)^n$. Since $(1+a)^n$ may be made larger than any assigned number then $1/(1+a)^n$, or x^n, may be made smaller than any given number however small.

6. Find the equation of the line through a vertex perpendicular to the corresponding base of the triangle determined by the lines $ax+by+c=0$, $lx+my+n=0$, $px+qy+r=0$.

The line through the intersection of (1) and (2) is of the form

$$ax+by+c+k(lx+my+n)=0.$$

The slope of this line is $-(a+kl)/(b+km)$. The slope of $px+qy+r=0$ is $-p/q$ and therefore the slope of the perpendicular is q/p. Therefore $-(a+kl)/(b+km)=q/p$. From this equation the value of k may be found and then the equation of the required perpendicular becomes

$$(lp+qm)\ (ax+by+c)=(ap+qb)\ (lx+my+n).$$

7. (a) Find the equation of the two tangents drawn from the origin to the circle $x^2+y^2+2gx+2fy+c=0$.

(b) If different values are assigned to g, f, c, what relation among g, f, c, will assure that these tangent lines from the origin are always the same lines?

(c) What do the results become if $c=0$?

(a) The equation of the given circle may be written $(x+g)^2+(y+f)^2=g^2+f^2-c$. Therefore the centre is $(-g, -f)$ and the radius is $\sqrt{g^2+f^2-c}$. If we let $y=mx$ be the required tangent then the length of the perpendicular from the centre to the line $y=mx$ must be equal to the radius. Therefore $(f-gm)/\sqrt{1+m^2}=\sqrt{g^2+f^2-c}$. From this equation the values of m may be found and the equation of the tangents becomes

$$y(f^2-c)+xfg=\pm x\sqrt{cf^2+cg^2-c^2}.$$

(b) The line $y=mx$ is always the same line if m is a constant.

(c) If $c=0$ the equation of the two coincident tangents is $gx+fy=0$. This tangent will always be the same line if the ratio of g to f is a constant.

8. Show that the lines

$$kx+y=0,\ x-ky=0,\ kx+y+l=0,\ x-ky-l=0$$

determine a square and find the equations of the diagonals.

Lines (1) and (2) are perpendicular to each other and pass through the origin. Lines (1) and (3) are parallel and so are (2) and (4). Therefore the figure is a rectangle. The lengths of the perpendiculars from the origin to lines (3) and (4) are equal. Therefore the figure is a square. The co-ordinates of the angular points of the square may be found and the equations of the diagonals may then be written down from the formula. The equations are

$$x(1+k)+y(1-k)=0 \text{ and } x(1-k)-y(1+k)=l.$$

9. Two triangles of equal area are inscribed in a circle. Show that the rectangle contained by any two sides of the one is to the rectangle contained by any two sides of the other, as the base of the second is to the base of the first.

Let the equal triangles be ABC and PQR and let the lengths of the perpendiculars from A and P to the opposite sides be m and n, and let the diameter of the circle be d. Then $BA.AC=md$ and $QP.PR=nd$. Since the triangles are equal in area $m.BC=n.QR$. Therefore $BA.AC:QP.PR=m:n=QR:BC$.

Geometry

J. G. WORKMAN, B.A.
Ontario College of Education

THERE is hardly any doubt that the teaching of Geometry in Ontario High Schools has greatly improved during the past few years. A more rational introduction to the subject and text-books better adapted for use by immature pupils have been largely responsible for this improvement. That there is still much room for improvement is also true. High School graduates generally possess a much poorer grasp of Geometry than of Algebra or Arithmetic. Their knowledge is not as readily available for use as in the other branches of High School mathematics. Indeed, comparison of examination papers in Geometry and Algebra reveals the fact that such a result is generally expected. Examination papers in Algebra are largely a test of the students' ability to apply the principles they have learned to new problems. Examination papers in Geometry, on the other hand, are mainly a test of the thoroughness with which the students have mastered cut-and-dried solutions found in a text-book. If the examiner ventures to make the paper a real test of the student's ability to apply his know-

ledge to new problems there is apt to be serious complaint. As a matter of fact students may, and do, successfully pass the entire series of High School examinations in Geometry who have never learned to do a bit of geometrical reasoning for themselves. Such results are hardly desirable. If they are inevitable it is a question whether the subject is worth the time devoted to it. The present article is an effort to account for these results and to suggest means of improving them.

In the first place, it should be noted that the text-book in Geometry has always differed essentially in its appeal to the student from the text-books commonly used in Algebra and Arithmetic. In any modern text-book in Elementary Algebra one finds that as the principles of the subject are developed their application to typical exercises or problems is carefully explained, and the student's progress depends on, and is judged by, his ability to apply for himself the principles he has learned. In most text-books in Geometry, on the other hand, abstruse principles are formulated—in a most unfamiliar form—and generous lists of exercises are given to which the learner may apply these principles, but the gap between principle and practice is left unbridged. Seldom does one find an exercise analysed as a guide to the reader, seldom the slightest hint to assist in applying the facts learned, to concrete problems. In the elementary text-book at present used in Ontario High Schools, for example, the only bit of geometrical analysis appears too late in the course. And this peculiarity in the traditional text-book has, it is to be feared, been reflected in the teaching of the subject. Teachers too frequently place supreme emphasis on the mastery of prescribed theorems instead of on their use. Too often students spend most of their time learning to appropriate the argument and statement of another instead of learning to reason things out for themselves. In the case of such students it is not remarkable that they leave school with little to show for their work and a strong distaste for the subject.

Such condition is not necessary. It simply means that the skill, patience, and perseverance of the teacher must supply the bridge between principle and practice. The application of theorems to exercises does not come readily except to the brilliant, but the extraordinary benefit and genuine pleasure that accrues from practice in solving exercises is the right of every student. To present the subject to a second form in such a way that interest is aroused, and pupils find pleasure in reasoning things out for themselves, demands the best efforts of the teacher. He must go slowly, remembering the innate difficulty of the subject and its novelty to the beginner. He must encourage his pupils to express themselves in their own way, not expecting cut-and-dried solutions, possible only as the result of experience. The mistake most frequently made in lessons by inexperienced teachers is the result of expecting too much

from immature students. A theorem is discussed, its application noted, and an exercise given to the pupils to work for themselves. After a short time—generally too short—solutions are asked for. Some one immediately volunteers and he is asked to explain his work to the class. He hardly begins before the teacher finds some flaw in his language or demands the authority for some petty statement or even refuses to listen to his solution because it may not happen to be the one expected by the teacher. Throughout the explanation the teacher insists that the facts be expressed in a certain form previously decided upon by him. Such an attitude to a class, if persisted in, cannot fail to discourage effort. How much better to allow the student complete freedom in expressing himself in his first statement, commending him for his success in obtaining a solution which, after all, is the important thing, and then suggest to him the possibility of improving and making more complete the statement of his solution.

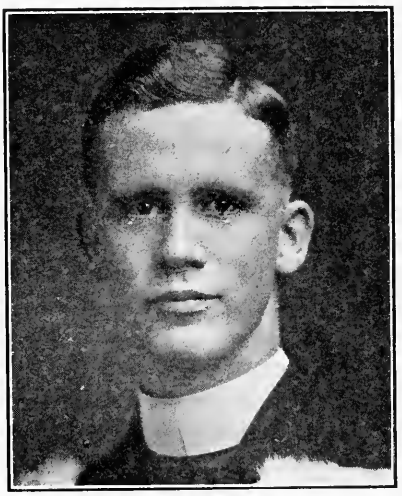
In the second place, it is a question whether teachers of Gemoetry generally appreciate the peculiar difficulties of the subject to the average boy or girl who begins its study. The text-book he is given is the most uninteresting volume he has met with in his school career. The material dealt with is unfamiliar and at no point touches his every day experience. Just consider some of the statements that meet the eye in the first few pages of any text-book: "A point is that which has position but no size". "The straight line joining any two points on a plane surface lies wholly on that surface". "Things that are equal to the same thing are equal to each other". "Magnitudes that coincide with each other are equal to each other".

Is it possible to present such material to a class at the beginning in such a way that it has any real meaning. The necessity for strict definition of terms, and for the formulation of axioms, is perfectly apparent to one who is acquainted with the subject but cannot be to the beginner. Better leave such abstract ideas until a little later. Lead the pupils as soon as possible to undertake simple investigations, to handle facts discovered in such a way as to establish new facts, allowing them to express themselves in their own way. As the pupils show progress the teacher gradually becomes less easily satisfied. He becomes more insistent on clear-cut reasons for statements advanced. Terms are used by the class in such a way as to give him an opportunity to point out the necessity for strict definition of terms and adherence to the definition. Again, before long, pupils will offer such statements as these. Angle A is equal to angle C, and angle B is equal to angle C. Therefore angle A is equal to angle B. If pressed to explain such a conclusion they generally reply that they cannot explain it but simply know that the third statement follows from the other two. Such a

situation furnishes a rational introduction to the axioms. The aim of the teacher should be to make clear to the pupils the purpose of each step they are asked to take. Unless this is done the pupils lose their way in a maze of meaningless statements. They do not develop confidence in their ability to think things out for themselves and too often the whole purpose of the study is largely lost sight of at the very beginning.

Motion Pictures With Lantern Slides

IT is always a pleasure to be able to record a noteworthy achievement of a Canadian teacher. A member of the staff of THE SCHOOL recently inspected lantern slides invented by Rev. Brother Gabriel, Science Master of De La Salle Collegiate, Toronto, to give the effect of a moving picture. In order to use the slides it is necessary to have a double lantern which gives the dissolving-view effect. Two slides of the same object are prepared exactly similar in size, but the two show the object in opposite phases of its motion. For example if the action of a pump is being illustrated one slide would show it on the up-stroke, the other on the down-stroke. Both are placed in the lanterns and by means of the dissolving-view effect successively brought on the screen. The result is a view that has all the appearamce of a moving picture. With the pump pictures, the valves open, the water flows, the piston rises, the handle goes down. By means of this device the slides can be studied separately and the motion can be studied as effectively as by means of a film in a cinematograph machine. Brother Gabriel showed wave motion, the working of the telephone and telegraph, and several other mechanisms in physics and chemistry. There is no doubt that this discovery will be of great value to the science teachers of Canada. It is understood that the McKay School Equipment Co. is handling the slides which Brother Gabriel has worked out.



REV. BROTHER GABRIEL, F.S.C., B.A.

Paradoxes

A. E. ATWOOD, M.A.
Osgoode St. School, Ottawa, Ont.

A PARADOX is a statement which at first view seems absurd and at variance with common-sense. It is a seemingly self-contradictory expression. As a rhetorical device its object is to produce an unexpected impression. The epigram, "Stone walls do not a prison make, nor iron bars, a cage", is a paradox.

In Britain and in other European countries

> "The rule of the road is a paradox quite:
> If you keep to the left you will keep to the right."

An agriculturist describes sandy soils as *light* and clay soils as *heavy*; now if a cubic foot of dry sand and of dry clay be placed on the scales their respective weights will be approximately 100 pounds and 80 pounds. Light soils are heavier than heavy soils.

A person who thinks only of the terms of expression is generally caught by this old problem: if it costs $2.00 to cut the sticks of a cord of wood into two pieces, what will it cost to cut them into three pieces? The natural answer is $3.00, the correct answer is $4.00. It is the number of cuts that are paid for and not the number of sticks produced.

On the wall of a garage was a square window, a yard high and a yard wide. On the inside was a blind, a yard square which could cover the window. The owner, wishing more light, enlarged the window to twice its previous size, but was able to use the same blind, as the window was still a square a yard high and a yard wide. This paradoxical problem can be solved by drawing the first square on its vertical and horizontal diagonals, and the second square on the same lines used as diameters.

An architect was asked to design a house with as much southern exposure as possible. He succeeded in designing one whose four sides all faced the south. The house was, however, never built as the specifications required that it should be erected at the North Pole.

The period from the vernal to the autumnal equinox would be conceded to be *one* half year. From the autumnal to the vernal equinox would then be the *other* half. If the number of days in each of these halves be counted it will be found that the one is several days longer than the other. The two halves of the same thing are unequal.

The Atlantic end of the Panama Canal may be appropriately referred to as the eastern and the Pacific end as the western extremity. While it is true that the east and the west oceans are joined by this canal it

is also true that the Atlantic end is further west than is the Pacific end. Paradoxically expressed the east end is farther west than the west end.

Any boy who has gone berrying knows that a blackberry is red when it is green.

This article will be brought to a close by requesting the reader to form one word from the letters in "new door". He will have no difficulty in doing so, if he remembers that it is a a paradox problem and that "one word" is two words.

Drama in the School

ALEX. MACMILLAN, M.A.
Camrose, Alta.

IT is a little perplexing that at a time when we are reaching out our educational tentacles in every direction, one of the most promising fields has received only superficial attention. The drama is practically an uncharted area in our educational curriculum. While here and there timid experiments are being made in the right direction, its full educational possibilities are still to be realized. As an everyday school subject it is at present employed in an unsystematized form and in a subordinate capacity as an auxiliary to literature and kindred subjects. In its completer form it is generally relegated to term concerts and similar entertainments, where it is stripped of all educational properties, being designed from the viewpoint of the spectators rather than of the actors. What deprives this form of acting of nearly all its educational value is the absence of properly directed self-criticism. The acting is submitted *en bloc*, and criticism is advanced only by that most primitive means of communication, applause, which at best is capable only of saying "Yes" and "No" in varying intensities.

While the modern drama can scarcely be regarded as an unmixed blessing, its function as an educational factor is as clearly defined as it was in the flourishing days of the Greek theatre. Sophocles drove highly critical audiences to tears over the woes of Antigone on the assumption that a judicious cry is good for the individual; and Aristophanes supplied the healing boon of laughter on the same principle. What distinguished these master playwrights and stage directors was their insistence on the need for discrimination. Drama must not only make us laugh or weep; it must select worthy objects for our mirth and our tears. These are the outward symptoms of some of our intensest psychic states. The master who takes us in this plastic state has almost infinite power to mould our characters for good or ill. When we rise with him we are conscious of

moral effort, which may be irksome if we are accustomed to the relaxing influences of a degenerate theatre, but which, if persevered in, will itself become a fruitful source of elevating pleasure.

The school theatre would naturally revert to the Greek ideal. Any infusion of the spirit of cheap and tawdry melodrama would make it a positive menace to the school. Under competent direction, however, its proper sphere could readily be determined, and once under way, it would in the hands of a stimulating teacher, become an instrument of undoubted value. The idealizing instincts of the child could find here a means of expression which no other branch of school activity can supply. The ideals of the adult are assimilated to the well defined concepts he has based on protracted and illuminating experience, and are translated into terms of everyday life. The child is lost in the endless mystery of "why" and "if". The whole universe dangles before his eyes as a gigantic problem. Unable to formulate the abstract, he lives in it, and in the unwearying effort to lay his hands on some tangible thread, he gropes around in a world of postulates and hypotheses. His giants are the embodiment of absolute cruelty, his Prince Charmings of unqualified gallantry. For the adult there is no absolute cruelty, for in the cases which have come within his experience a host of minor considerations reduce such abstract qualities to a greatly attenuated form. The child accepts his own personifications without question. He can already visualize them, but to bring them into contact with the touchstone of reality, he must throw his imaginings into active forms—that is he must dramatize them. The products of his imagination are thus brought into the scheme of his own experience: his ideals are anchored to the earth. His "why" is resolved into a "yes" or "no". When Cinderella steps on the stage and the plot begins to unravel itself, he instinctively proceeds to compare the characters and the action as they are presented to him with his own vague previous visualization of them; and, if his critical faculties are not prematurely developed, he will readjust his old pictures to the new standpoint. When the plot has reached the stage where its basic problem becomes apparent, he will set himself with critical relish to watch how the clash of good and evil is going to result. He attends with that deceptively disengaged attitude which would suggest that he had never heard the story before. He knows perfectly well that Cinderella will in the end triumph over her enemies and marry the Prince, but so complete is his abandonment to the progress of the plot that he winces at every setback she receives, and watches the final trial of the glass slipper with half apprehensive, half exultant expectation. His is that attitude of vigilant concentration which is the first requirement for purposes of instruction. Surely, if education sets itself to develop the child's activities by exercising them under favour-

able conditions, we have here a valuable auxiliary to our accepted methods.

The transition from the spectator's to the actor's role is not necessarily an abrupt one, especially if the collaboration of the pupils in the composition as well as the staging of the dramatic pieces is made an integral part of the scheme. The dramatic representation of a short piece obviously affords the most illuminating criticism of its merits as a composition. Let us, however, leave that aspect of the subject for the present, and turn to the actor, who, from the viewpoint of educational benefits derived, is undoubtedly, of all concerned, the principal beneficiary.

The crude imitation in which the dramatic instinct of his earlier years sought expression are now replaced by a role which admits of deliberately creative as well as mimetic effort. This process of interpreting another's character touches perhaps the very elemental principles of education. No other activity is quite so conducive to the process of self-realization as the concentrated effort to interpret the doings and sayings of another. It is not a case of representing the behaviour of a commonplace person under commonplace circumstances. The nature of the drama demands an element of the unusual in the conditions on which rests its central interest. The actor not only reproduces a type of character, but constructs and interprets a situation interesting by virtue of some dominating issue. To interpret properly, he must understand, and his very interpretation helps to enlarge and clarify his understanding. These activities are especially well adapted to develop the quality of *versatility*, to be applied later to the serious problems of adult existence.

The most important educational advantages of the school drama are, in this way, related to the pupil's intellectual progress. It is also effective in the development of language power. Its value here lies in its correlation of action and speech. The class reading lesson has greatly inferior possibilities from this point of view. Even in reading a passage consisting mainly of dialogue, the average pupil, and particularly the average boy, cannot shake off the conviction that only a half-hearted effort at dramatic representation can be expected of him. It is almost beyond his power, or perhaps beneath his dignity to do justice to his all too temporary histrionic role. In more systematically organized exercises, where he is co-operating with others, and where all the formal trappings of the drama are introduced to strengthen the illusion of reality, he is willing to throw himself into his part with all the power of his imagination. It is a well known fact that pupils whose oral language work suffers from the defect of stammering due to nervousness frequently show almost complete immunity from this disability when engaged in

dramatic work. Moreover, the inherent attractions of this kind of work furnish an unimpeachable motivation. Outside of athletics no other school activity furnishes such a powerful incentive to vigorous effort as the desire to excel in a dramatic capacity in the presence of one's classmates. Histrionic fame has allurements which not even the most cynical of youths can resist.

To provide suitable material should impose no burden on a teacher of taste and imagination. Recognition should in the first place be given to the distinctive character of the school drama as being primarily an instrument of education. This does not mean that interest is to be sacrificed to pedagogic considerations. Interest is the indispensable virtue in a play as it is in every other educational subject. What raises the school drama to a plane of its own is the distinctive handling of incidents and situations *in an educational atmosphere.* It must discard the adventitious elements which have no definite function in the evolution of plot or character beyond producing momentary sensations accepted as pleasurable. Much of our modern comedy and not a little even of our tragedy reduces the spectator to a passive rather than an active attitude. It degenerates into a vehicle for administering a series of little shocks. The school theatre must be the antithesis of this electric-battery type of agent. It must draw attention to its evolution as a whole rather than to its cumulative effects as a series of parts. It must be bracing, not relaxing; constructive, not destructive.

From everyday human experience as well as from the broad fields of literature the discriminating teacher can draw ample material. If she wishes to realize to the full the possibilities of this form of exercise, she will promote a system by which, as far as possible, her dramatic material will be produced within the walls of the school-room. Dramatization as a valuable exercise in composition is too well recognized to need emphasis. But only those who have made the experiment can realize how successfully an average class can dramatize a situation which requires a lengthier treatment than any individual pupil can give. The preliminary disposition of the plot, apart from its literary and language aspect, is an excellent medium for stimulating dramatic instinct. The selection of the theme will demand an appreciation of dramatic situation. Then the central interest of the play will have to be determined, with the necessary adjustments to harmonize the action with the principle of dramatic unity, and meet the exigencies of time and place. In this connection it may be noted that in the abbreviated type of drama which lends itself to school work, it will usually be found wise to adhere to the three unities of classical fame. It will soon be evident that viewed from the new standpoint, a topic already approached from the literary point of view, appears in a novel and more compre-

hensive light. The pupil's creative powers will at the same be stimulated to seek a means of bridging the gap between the field of narration and description and the new field of action. If a cow enters into the plot, it will obviously be impossible to introduce it within the doors of the school classroom. The willing dramatists must tax their ingenuity to find some means of leaving the cow out of view and yet saving the plot. Sometimes the plot must be recast to the extent of replacing the entire group of *dramatis personae*, the central idea alone being retained.

The next step will be the rational division of the plot into a series of sections, to be apportioned to groups or individuals in the class. The common type of plot with at least a modicum of incident will lend itself to such partitioning without violence to its continuity. After the most suitable version of each section has been selected, a general revision will remove any jarring elements arising from differences in conception and treatment, and leave the result a complete and unified whole, ready for the stage.

The length of the playlet should be determined, in large measure, by the effort involved in memorization of the parts. This operation is *prima facie* a mechanical one, and when all is said and done, that which involves the greatest amount of individual labour. Indeed, were it not for the direct and indirect benefit resulting from the actual process, the amount of energy expended in memorization might seem entirely disproportionate to the value of the piece, judged by the length of time it takes to act. What minimizes this objection is the educative value of memorization which draws inspiration from its dramatic purpose. A well written role, thoroughly mastered in the correct spirit tends to leave a permanent beneficial impress on the student's mind. At the same time care must be taken, by restricting the length of the piece and judiciously distributing the conversation among the characters, to prevent the preparatory stage from becoming burdensome.

Not the least important question which the teacher will have to answer for herself has reference to the type of plot to be employed. The question is too large to receive detailed consideration here, but a few suggestions may be offered. It is essential, if the functions of the drama are to be fulfilled, that the moral truth involved in the plot should be *apparent* enough to be apprehended by an immature audience. A series of spectacular situations, interesting enough in themselves, will be valueless without a fairly obvious unifying purpose. It is important that this purpose should be well within the mental range of the audience. It takes a mature mind to appreciate the dramatic justice of a play which turns on the apparently undeserved misfortunes which visit and finally overwhelm an entirely commonplace individual. The Oedipus type of play is outside the range of the school. The popular type of school play

will have for its *motif* the struggle between good and evil. In this kind of play it is undoubtedly desirable that the conclusion should show the triumph of good and the discomfiture of evil. Virtue vanquished impresses the child as a meaningless blow struck at our common humanity. The triumph of virtue, on the other hand, viewed as it is with such immense satisfaction, undoubtedly serves to strengthen the moral sense.

Comedy may be allowed a free rein, with the proviso that it should never degenerate into pure farce. What needs stringent regulation is the nature of the sentiment intended to amuse. The cultivation of taste is strongly affected by this. In ordinary life we find none of the minor vices more repulsive in a child than vulgar efforts at showy wit. At the same time the development of an appreciation of the ridiculous does not exclude an appeal to the ethical faculty. We laugh without restraint at the contortions of an unduly long man, but feel pained by the clumsy antics of a deformed man. The cultivated taste maintains due respect for that form of the grotesque which appeals to our sympathy. It is an attitude which in a child requires cultivation. The school theatre has unquestionable power to develop a discriminating sense of the ridiculous along sane and healthy lines.

Book Reviews

Philips' Junior Historical Atlas, prepared under the direction of the Historical Association. Stiff paper, 40 pages $7\frac{1}{2} \times 9$. Price 2/. London, George Philip & Son, Ltd., 1921. A committee appointed by The Historical Association, and working under the chairmanship of Dr. R. R. Reid has prepared a very valuable historical atlas for secondary schools, and it is now published at the very moderate price of 2*s*. This volume, containing 40 pages of coloured maps and eight pages of descriptive letter press, will be of immense help to High School pupils in studying Ancient, British, European and even North American history. The maps are clear, well coloured, accurately printed, and numerous enough to illustrate most phases of history studied in our schools. One special feature should be mentioned. Many of the maps show elevations, and some show density of population. These two features, often omitted in historical atlases, help greatly in understanding the movements of history. G. M. J.

The Parish Register of Kingston, Upper Canada, 1785-1811, edited with notes and introduction by Prof. A. H. Young of Trinity College, for the Kingston Historical Society. Stiff paper, 207 pages. Price $2.00. Printed privately by the author, 1921. The introduction gives information concerning the first rector, Dr. Stuart, the first St. George's Church, the benefactors, the church wardens, the pew holders, the clerks and the sextons of the period. The main body of the book gives lists of baptisms, marriages, and funerals. A very full index makes all this mass of information readily available. The historian investigating the story of Upper Canada from 1785-1811 will find much that is useful in these pages; many people of U.E.L. descent will be interested in the details for other and more personal reasons. These two volumes are a valuable addition to our genealogical literature. G. M. J.

The Revd. John Stuart, D.D., U.E.L., of Kingston, U.C., and His Family, by A. H. Young. Stiff paper, 64 pages. Price $1.50. Printed privately by the author, 1921. This is a genealogical study of the Stuart family, which played such a prominent part in the early history of Canada, and still has many representatives in this country. This study will be valuable to the historian, and of very great personal interest to those connected in any way with the Stuart family. The author has evidently gone to very great trouble to get accurate and full information.

A Book of English Verse on Infancy and Childhood, chosen by L. S. Wood. Cloth, 365 pages. Price $1.10. Toronto, The Macmillan Co. of Canada, Ltd., 1921. This is the latest addition to the very well-known Golden Treasury Series. It is not a book for children, but is representative of the best that has been written about children since the fifteenth century. Unlike some of the other Golden Treasuries it contains many poems by living authors. As one glances over these pages he is struck not only by the number and variety of poems about children, but by the fact that since the days of Wordsworth and the Industrial Revolution "the wonder, the sanctity and the indefeasible rights of childhood" have been increasingly accepted by the English speaking world. The world is getting better, and in nothing is this more clearly shown than in our attitude toward children. This volume will be prized both by those who have good poetry and by those who love children. G. M. J.

Book Notices

(Mention under this head does not preclude review elsewhere)

The Beginners' Ancient History, by J. B. Newman, M.A. Limp cloth, 174 pages, illustrated with black and white maps and pictures. Price 2/3. London, George G. Harrap & Co., Ltd., 1921. This is a survey from the earliest times to about A.D. 1000.

Out-of-Door Stories, by Major Charles G. D. Roberts. Nine volumes, paper boards, about 265 pages each. Price $1.10 per vol. Toronto, The Macmillan Co. of Canada, Ltd. 1921. Roberts' stories of animal life and adventure are too well known to need an introduction to Canadian readers. A generation of children has grown up that first became acquainted with his work in the story, "They do seek their meat from God". This series of volumes contains a large number of stories first published serially between the years 1906 and 1919. They are full of that knowledge of animals and their habits, that insight into human motives, and that love of nature which have long distinguished the short stories of Roberts. In one instance a group of stories all concern one animal, the quite wonderful backwoods police dog called Jim. He performed great feats in tracking criminals for his master, Pug Blackstock, the Deputy Sheriff. The intense interest which is maintained through 150 pages in the performances of Jim, is a great tribute to Roberts' skill in interesting us in the doings of the animals. This set of books will be enthusiastically welcomed by old and young. G. M. J.

The Beginners' Modern History, by J. B. Newman, M.A. Limp cloth, 160 pages, illustrated in black and white. Price 2/3. London, George G. Harrap & Co., Ltd., 1921. A companion volume to the Beginners' Ancient History. It covers the period from 1000 A.D.

Products of the Empire, by J. C. Cunningham, B.A. Paper boards, 300 pages. Price $1.50. Toronto, Oxford University Press, 1921.

A Short Social and Political History of Britain, by R. L. Mackie, M.A., B.Litt. Cloth, 420 pages, illustrated. Price 4/6. London, George G. Harrap & Co., Ltd., 1921. This book attempts to do for the schoolboy of twelve to fourteen what Prof. A. F. Pollard has done for the adult in his *History of England*.

Magic Pictures of the Long Ago, by Anna Curtis Chandler. Limp cloth, 158 pages, illustrated. Price 2/6. London, George G. Harrap & Co., Ltd., 1921. An attractive book of history stories for young children. Paper, type and illustrations are all good, and the stories are charmingly told.

The Beginners' History of England, by Miss E. W. Miller, B.A. Cloth, 280 pages, illustrated. Price 2/6. London, George J. J. Harrap & Co., Ltd., 1921. This is a third volume of the series. The story of England is brought down to the end of the Great War.

Saints and Heroes of the Western World, by Muriel O. Davis. Paper boards, 135 pages, illustrated. Price 75c. Toronto, Oxford University Press, 1921. Well told biographies of sixteen famous men from Constantine to Ignatius Loyola Suitable for High School pupils beginning the study of European History.

A Short History of Scotland, by Charles Sanford Terry, Litt.B. Cloth, 266 pages, illustrated with maps. Price 8/ net. Cambridge University Press, 1921. This is a short history of Scotland for High Schools, based on the author's larger work published in 1920.

Readings in English Social History, vol. III, 1485-1603, edited by R. B. Morgan, M.Litt. Cloth, 118 pages, illustrated. Price 1/ net. Cambridge University Press, 1921. This is the third volume of a useful series of source books emphasizing the social side of English history.

Elizabethan Lyrics, selected from the Miscellanies and annotated by Dorothea Mavor, B.A. Limp cloth, 122 pages. Price 1/9. London, Methuen & Co., Ltd., 1921. An interesting collection of lyrics chosen from the seven miscellanies or anthologies of verse published between 1551 and 1602.

Pearl, A Fourteenth Century Poem, rendered into modern English by G. C. Coulton, M.A., Hon. D.Litt. Limp cloth, 66 pages. Price 1/9. London, Methuen & Co., Ltd., 1921. This is the earliest child poem in the language, and is a notable production of the fourteenth century.

Letters From Constantinople, by Lady Mary W. Montagu. Limp cloth, 95 pages. Price 1/9. London, Methuen & Co., Ltd., 1921. A series of interesting letters written in 1716-18 by the wife of the British Ambassador to Turkey.

The Kingsway Series of Composition Books, Books I and II, by Robert Finch. Paper, 48 and 64 pages, respectively. Price 6*d*. each. London, Evans Bros., Ltd., 1921. These are the first two of a series of books for pupils' use published to illustrate the author's volume on *How to Teach English Composition*.

A Year's Work in English, by J. W. Marriott. Cloth, 175 pages. Price 2/6. London, George G. Harrap, 1921. A quite unusual combination of grammar, composition and supplementary reading. Teachers will find it interesting.

English for the English, by George Sampson. Cloth, 112 pages. Price 5/ net. Cambridge University Press, 1921. Mr. Sampson believes the present system of elementary education in England is a failure, and proceeds to outline a programme which he thinks is better.

The Principles of Language Study, by Harold E. Palmer. Cloth, 186 pages. Price 6/ net. London, George G. Harrap, Ltd., 1921. This book is a popular exposition of the ideas advanced in the author's larger and earlier work, *The Scientific Study and Teaching of Languages*.

Grammar and Practice, by Susan I. Frazee and Chauncey W. Wells. Cloth, 166 pages. Price $1.10. Toronto, The Macmillan Co. of Canada, Ltd., 1921. A new grammar distinguished, according to the authors, by its colloquial manner, its informal method and its exercises.

Readings from Ruskin, edited with notes and exercises, by Susan Cunnington. Limp cloth, 155 pages. Price 2/6. London, George G. Harrap & Co., Ltd., 1921.

Self-Help English Lessons, First Book, by Julia H. Wohlforth. Cloth, 256 pages. Price 96 cents. Yonkers-on-Hudson, N.Y., World Book Co., 1921. This is the first book of a series which includes three books and a Teacher's Manual. This volume is intended for grades three and four.

True Stories of the Water Folk, by Mabel Marlowe. Paper boards, 64 pages. Price 2/6. London, George G. Harrap & Co., Ltd., 1921. A series of stories for young children entirely based upon facts. Illustrated with black and white drawings.

The Meadow Folk's Story Hour, by Prudence Gruelle (Blanche Silver), illustrated by Nell Hatt. Cloth, 101 pages. Price 68 cents. New York, The Gregg Publishing Co., 1921. A volume of attractively illustrated nature stories for young children.

In Many Lands, Book III, England and Wales, by Samuel Gibson. Cloth, 168 pages, illustrated. Price 2/4. London, G. Bell & Sons, Ltd., 1921. A very well illustrated geography reader describing England and Wales for children of Standard III.

Selected Short Stories, Second Series. Cloth, 483 pages. Price 75c. Toronto, Oxford University Press, 1921. This new volume of the *World's Classics* supplements the book of Selected English Short Stories published in 1914. It contains a good collection of stories from nineteen authors of the 19th and 20th centuries.

French Accidence and Syntax, by James P. Prior. Cloth, 206 pages. Price 3/6. London, George G. Harrap & Co., Ltd., 1921. A new volume of Harrap's Modern Language Series.

Pages d'Histoire de France, edited by M. Coppin. Limp cloth, 112 pages. Price 1/6. Extracts from the works of Michelet edited with notes and vocabulary.

A German Prose Reader, compiled and arranged by H. S. Beresford-Webb. Cloth, 174 pages. Price 4/6. London, Methuen & Co., Ltd., 1921.

Extracts for Spanish Prose Translation, chosen and edited by E. Allison Peers, M.A. Cloth, 144 pages. Price 3/6. London, D. C. Heath & Co., 1921. Notes and vocabulary.

Ein Jahr in Einer Englishen Schule, edited by H. J. B. Wanstall, M.A. Paper, 69 pages, notes and vocabulary. Price 1/6. London, George G. Harrap & Co., Ltd., 1921. Extracts from the diary of a German boy who attended a well-known English public school.

Elementary Home Economics, by Mary Lockwood Matthews, B.S. Cloth, 343 pages, illustrated. Price $1.40. Boston, Little Brown & Co., 1921. First lessons in sewing and textiles, foods and cookery, and the care of the house.

The Star People, by Gaylord Johnson. Paper boards, 107 pages, fully illustrated. Price $1.50. Toronto, The Macmillan Co. of Canada, Ltd., 1921. Elementary astronomy for young children presented in very attractive form.

The Earth and Its Life, by A. Waddingham Seers, B.A. Limp cloth, 208 pages, many illustrations. London, George G. Harrap & Co., Ltd., 1921. Price 2/3. An account of the evolution of the earth and its life. Suitable for High School pupils.

A Three-Term Course in Elementary Science, by A. Monteith, B.Sc. Three volumes, paper, 40 pages each. Price 1/ each. London, Blackie & Son, Ltd., 1921.

Blackie's New Systematic Geographies Regionally Treated, by David Frew, B.A. Book III Europe, Book IV Asia and Africa, Book V America and Oceania. Stiff paper, 64 pages each, illustrated. London, Blackie & Son, Ltd., 1921.

A Graded Course of Geography, Book I, by E. S. Price. Stiff paper, 62 pages $7\frac{1}{4}\times9\frac{1}{2}$, 78 maps and diagrams. Price 2/. London, George Philip & Son, Ltd., 1921.

The Kingsway Atlas of Physical Geography, by B. V. Darbyshire, M.A. Paper, 17 pages $7\frac{1}{2}\times10$. Price 6*d*. net. London, Evans Bros., Ltd., 1921.

Transport and the Export Trade, by A. Risdon Palmer, B.A., B.Sc. Cloth, 91 pages. Price 2/8 net. London, G. Bell & Sons, Ltd., 1921. One of a series of handbooks of commerce and finance.

Easy Calculations and Accounts, by W. S. Beard. Cloth, 76 pages. Price 2/6. London, Methuen & Co., Ltd., 1921.

Farm Blacksmithing, by John F. Friese. Cloth, 92 pages. Price $1.25. Peorea, Ill., The Manual Arts Press. A text-book for agricultural and technical schools.

The Joy of the Mountains, by William Platt. Cloth, 80 pages, illustrated. Price 1/9. London, G. Bell & Sons, Ltd., 1921. A well illustrated geography reader.

Sex for Parents and Teacher, by W. L. Stovell, M.D. Cloth, 204 pages. Price $3.50. Toronto, The Macmillan Co. of Canada, Ltd., 1921. Scientific and restrained. The biological approach is expecially good.

The Perfect Gentle Knight, by Hester D. Jenkins, Ph.D. Paper, 59 pages. Price 32 cents. Yonkers-on-Hudson, World Book Co., 1921. The story of chivalry leading up to the modern health crusade.

The Teaching of Shorthand in Intermediate or Junior High Schools, Part II, by W. L. Mason. Paper, 36 pages. Toronto, Isaac Pitman & Sons, Ltd., 1921.

National Intelligence Tests. Scales A and B, Form II, and a manual of directions for using the scales. Paper. Scale A, Form II, in packages of 25 with scoring keys and class record $1.60; Scale B, Form II $1.60; Manual of Directions with Supplement 25 cents. Prepared under the auspices of the National Research Council. Yonkers-on-Hudson, World Book Co., 1920.

Haggarty Reading Examination. Sigma 3, Form A; Sigma 3, Form B; Key for Sigma 3, Form A; Key for Sigma 3, Form B; Manual of Directions. By M. E. Hagerty and Laura C. Haggerty. Examination Booklet. 8 pages. Price per package of 25 $1.50 net. Key, 2 pages. Price 10 cents net. Manual of Directions. 48 pages. Price 30 cents net. Yonkers-on-Hudson, New York: World Book Co., 1921.

Elementary Studies in Geography and History, by H. J. Mackinder. 301 pages. George Philip & Son. Price 3/6. This is one of a series of books by Sir H. J. Mackinder, whose name is the best guarantee that the facts will be not only authentic but interesting and worth while. This book attempts to describe the political geography not only in terms of physical features but also in terms of past history. A road, a city, or a country is not merely a result of physical causes but also a result of historical events and this book attempts successfully to explain one in terms of the others. This volume, which is well-known for years in Britain, will, we hope, become as familiar to Canadian readers. G. A. C.

Blake's New Systematic Geographies Regionally Treated. Book I. The British Isles. 64 pages. 9 pence. *Book 2. The British Empire Overseas.* 64 pages. 9 pence. These two little volumes in paper covers give one a bad impression of the kind of geography which is taught in some British schools. They are little more than a "dry-as-dust" summary of the geography of the regions treated. They are much overloaded with names. G. A. C.

Textile Mathematics, Part I. Woodhouse & Brand, Blackie & Son, London. 122 pages. Price 2s. 6d. When the Ontario Adolescent Attendance Act is enforced it will, no doubt, cause a large increase in the attendance at technical schools. These students will require text-books dealing in an elementary way with the science and mathematics most closely correlated with each large industry. The present text is of this character. The mathematical principles found in it are the same as are found in any elementary text, but the principles are explained in such a way as to appeal to textile students, while practically all the examples and exercises bear directly on the problems of textile work. J. T. C.

An Outdoor Class in Nature Study

M. E. R. BOUDREAU
Newmarket

EVERY teacher wishes to make his lessons appeal to every individual in his class. It is easier to do this in Nature Study than in some other subjects on the school curriculum. Still at times it seems impossible, especially in the rural school, to secure the attention of some older boys in lessons on birds, insects, and animals. These boys have spent much of their life in the Great Outdoors studying Nature from practical observation, and their knowledge of such things is broad; unless the teacher can introduce in the lessons in nature study, some new elements or knowledge, the lesson will not appeal to them.

One solution is for the teacher to have a clear, full knowledge and understanding of a subject, before he attempts to teach it. He must widen his knowledge on such matters, by reading material written by naturalists, entomologists and other authorities and so become superior to the pupils in their knowledge of animals, birds, insects, etc.

Another solution is to introduce new features into the teaching of the subject. There is one branch of Nature Study which is not emphasized very heavily in the present teaching of the subject, and yet which is of particular interest to the boys. If more lessons on Fish were taught at various intervals during the spring and fall the boys might value the nature study lessons more, and look forward to them.

Why cannot the teacher organize an excursion some Saturday or holiday such as Arbour Day to some stream or lake, and go on a combined picnic, and fishing expedition with the older pupils? Incidentally flowers might be gathered as well and examined or taken back to the school for an art or nature study lesson. By using the various kinds of fish caught the teacher could have a profitable object lesson right there on the shore, and teach in a far more interesting manner from the real specimen than from any fish diagram on the blackboard no matter how perfect a piece of art it might be. I'm sure, too, that it would appeal more to the children, and they would have clearer conceptions as to what the fish's gills look like in appearance and structure, and would have clearer ideas as to the positions of the fins. In short, they would have a clear knowledge of fish in all its characteristic features. By means of the various specimens caught, the distinguishing features of the different species of fish could be shown and taught in such a way that it would be impressed on the minds of the pupils. Try this solution and see how successful it will be. Pupils learn more in one such practical outdoor lesson on fish than in half a dozen blackboard lessons.

Note and Comment

Thanksgiving Day this year falls on Monday, November 7th. An act of the Dominion Parliament, passed last year, fixed the date as the Monday of the week in which Armistice Day (November 11th) occurs. Teachers' Institutes in Ontario are usually held on the Thursday and Friday before Thanksgiving Day, but as Thanksgiving comes so late Institutes are being held this year on October 6th and 7th.

A commercial firm has issued the following in wall-motto form: "*Speed Up.* There are no hard times coming. It's just the soft times going." And there is more truth than poetry in that.

Education is just coming into its own in Canada. Each year there will be excellent opportunities of promotion for those who are qualified. Are you making progress in academic or professional knowledge?

"Conservation of energy" means planning your work so that every expenditure of energy counts for something; it means, in the classroom, getting full value in results for every act and every word. Three important aides in the teacher's work are cheerfulness, punctuality, conservation of energy.

What contribution are you going to make to the success of your Teachers' Institute or Teachers' Convention?

To think and to talk about how hard you are working, how "busy" you are, how unjustly you are treated, is to develop a "grouch". And a "grouch" is the first step towards educational destruction.

Many teachers have said that they like the alleged jokes that appear in this journal. A little fun is an excellent lubricator in class-room machinery.

Rewards are better than punishments and cheerful raillery is more potent than nagging. Try these in your classroom.

Do you save your copies of THE SCHOOL? The index for 1920-21 is now ready and will be sent free on application to this office. Many an inquiry comes in, the answer to which is contained in a back number of THE SCHOOL.

News Items

By proclamation of the Lieutenant-Governor, section 3 of the Adolescent School Attendance Act, came into force on September 1st.

This section of the act requires pupils to remain in full-time attendance at school until they are sixteen years of age unless employed on the authority of a home permit or an employment certificate, issued by the school attendance officer.

A home permit may be granted, on the written application of the parent, to a boy or girl between fourteen and sixteen years of age, whose services in the opinion of the school attendance officer, are required in or about the home.

An employment certificate may be granted on the written application of the parent, to a boy or girl between fourteen and sixteen years of age, whose earnings, in the opinion of the school attendance officer, are necessary for the support of the home.

Every person who employs a boy or girl under sixteen years of age who does not hold a home permit or an employment certificate renders himself liable to a penalty of $5 for the first offence, and $25 for every subsequent offence.

It is not the intention to compel young people who are already engaged in regular employment to return to school. The act requires, however, that all young persons between fourteen and sixteen years of age, shall be either at school or work, and that all those who are at work either at home or in gainful employments, shall hold the permits or certificates required by law.

Those who have passed the High School Entrance examination and who are under sixteen years of age come under the provisions of this Act.

One hundred and sixty Canadian and New Zealand teachers who have been touring Scotland, England, France, and Belgium, arrived at Southampton on August 25th in the steamer Corsican, which they joined at Antwerp. They spent the day at Southampton as the guests of the Mayor and Corporation and late in the afternoon left for Canada. A few of the teachers are remaining here to study English educational methods.—*The Times Educational Supplement.*

The first annual report of the Director of Technical Education for Canada for the school year ended June 30th, 1920, on the operations of the Technical Education Act, which became law on July 7th, 1919, has been issued by the Department of Labour of Ottawa. Technical educa-

tion under the Act covers practically any approved form of vocational technical or industrial education or instruction necessary or desirable to aid industry and increase the earning capacity, efficiency, and productive power of those employed. The Act does not provide for any specific kind of education or training. This is a matter for federal-provincial agreement. All the provinces, with the exception of Prince Edward Island, have made a good start, though the field is not by any means covered.

A judgment was recently handed down by Judge Scott, of Perth, one aspect which will be of interest to public school teachers as it touches the right of teachers to detain pupils after four. According to the *Renfrew Mercury*, "Mr. O'Donnell, of Perth, who appeared for the parents, contended that no public school teacher has a right to keep pupils in after hours as the statute distinctly states that pupils attending a day school shall assemble for study at nine o'clock in the forenoon and shall be dismissed not later than 4 o'clock in the afternoon, citing an English case of the same nature as the one before the Perth court and in which a contention similar to the one urged by himself, had been sustained by the judge. Mr. Costello argued that this English decision has no binding force in Ontario. Detention after hours for delinquencies on the part of the pupils is a time-honoured institution. It has been proved that the right of a teacher to "keep in" is no longer questioned. With this argument of Mr. Costello's, Judge Scott agreed".

A graded list of books for children in elementary and junior high schools, constitutes the report of the Elementary School Committee of the N.E.A. library department, for 1921. It will be printed by the American Library Association, Chicago, if sufficient interest is expressed to justify the expense. The list is annotated and includes approximately 1,000 titles, arranged in three groups: (*a*) picture books and easy reading books for children in grades 1-3; (*b*) books for children grades 4-6; (*c*) books for pupils, grades 7-9. If printed with subject and title page index, it will make a book of perhaps 224 pages which will sell for about $1.50.

After a long delay in printing, volume I of the 14th report of the state education department has been issued by the University of the State of New York. The book, entitled "The Township System", by Thomas E. Finegan, formerly deputy commissioner of education for New York, now state superintendent of public instruction for Pennsylvania, is a documentary history of the endeavour to establish a township school system in New York. The report covers 1692 pages, more than 500 of which are devoted to a statistical comparison of taxes and expenditures for schools under district and township administration.—*American Education.*

Last Year's Classes in the Training Schools

(This information goes to the press early in the month preceding date of issue and so is not complete. An additional list will appear next month. If there are any errors, this office should be notified.)

Ontario College of Education.—Miss Edith Greene is teaching at Uxbridge; Miss Alice I. Saunders is at Chesterville High School; Miss Muriel H. Thompson is on the staff of the Alliston High School; Miss A. M. Baldwin is at Caledonia; Miss A. Gertrude Beasley is at Markham High School; Miss Lylla E. Smith is at Clinton Collegiate Institute; Miss Margaret H. McArton is a teacher in the Cornwall High School; Henry M. Miller is on the staff of the Exeter High School.

Stratford Normal School.—Annie I. Morrison is teaching in S.S. No. 10, Sullivan; Miss Pearl Watson at R.R. 3, Newmarket; Miss Annie McMillan in S.S. No. 10, East Wawanosh; Milton Allingham in Union S.S. No. 20, Mornington; Miss Lucy Burke at Staffa, R.R. 1; Miss Iva Treleaven in S.S. 3, Maryborough; Miss Eva Treleaven in S.S. No. 9, Egremont; Miss Mary E. McNab in S.S. No. 3, Morris Township; Miss Charlotte Tanner in S.S. No. 6, Mornington; Miss Ola M. Firsee at Stratford; Miss Dorothy Whatnough at R.R. 2, Embro; Miss Antoinette Reinhart at R.R. 2, Mildmay; Miss Marjorie Blair at Princeton; Miss Mina Gordon in S.S. No. 15, Amabel Township; Miss Camilla Meagher at R.R.L, Bamberg; Miss Janet R. Radcliffe at Stoke's Bay; Miss E. C. Stevens at R.R. 4, Wiarton; John H. Rennie in S.S. No. 7, Springford, South Norwich; Miss Lulu I. Duncan in S.S. No. 1, East Zorra; Miss Annie E. Cox in S.S. No. 10, Sarnia; Miss Teresa Morrissey at R.R. 3, Lucan; Miss Gladys Webb at S.S. No. 3, West Wawanosh; Miss Olive Cowan in S.S. No. 8, Ellice; Miss Marie A. Cole at Durham; Miss Norma Thompson at Lucknow; Miss Elenora Roth, S.S. No. 10, Wilmot; Miss Eunice C. Mason in S.S. No. 4, Warwick; T. C. H. Smith at S.S. No. 13, Medonte; Miss Forda Lake in U.S.S. No. 6, Wallace; Miss Myrtle Johnston at R.R. 1, Marshville; Miss Irene L. McKelvey at R.R. 3, Tara; Miss Ruby Taylor at S.S. No. 7, Stanley; Miss Agnes Walker at R.R. 2, Clifford; Miss Luella E. Bedell at East Linton; Miss Pauline Messerschmidt at S.S. No. 7, Normanby; Miss Georgina Burgess at R.R. 1, Port Elgin; Miss Earla Longman at No. 2, Drayton; Miss Isobel Kaufman at S.S. 7, Wilmot, Waterloo; Miss Irene McDermott at R.R. 1, Cayuga; Miss Phoebe Congram at S.S. 5, Turnberry Township; Miss Mary Crosbie at S.S. No. 6, Niagara Township; Miss Agnes Jane McCallum at S.S. No. 2, Sullivan; Miss Ida M. Elsley at Mount Forest Central School; Miss Viola Blackwell at S.S. 16, Brisbane; Miss Rebecca Armstrong at Wingham; Miss Luella Johnston at S.S. No. 9, Hullet, Huron Co.; Miss Margaret J. Finlayson at S.S. No. 10, Kincardine; Miss Annie Condy at Oliphant; Miss Madeleine Broughton at R.R. 1,

Harriston; Miss Kathleen Armstrong at Wiarton; Irwin F. Schenck at U.S.S. No. 5, Fullarton; Miss Jean Lennox at S.S. No. 5, Arthur; Miss C. Lorene Bender in S.S. No. 7, Wallace Township, Perth Co.; Miss Muriel M. Pickard at Southampton; Miss Elizabeth Sowerby at S.S. No. 9, Colborne; Miss Ella Sowerby in U.S.S. No. 11, Ashfield and Colborne.

Hamilton Normal School.—Miss Susie L. Hemingway is teaching at Burford; Miss Hazel Crozier at Princeton; Miss Ethel A. M. McCutcheon in Bolton Public School; Miss Doris N. Head at No. 3, Thorold; Mr. John T. Byron at R.R. No. 1, Wallenstein; Miss Gertrude Walker at Vining; Miss Editha L. Smith at R.R. No. 4, Simcoe; Miss Mary E. Robb at S.S. No. 6, West Flamboro; Miss Lelia V. Strong at Welland; Miss Muriel Anderson at R.R. No. 1, Scotland; Miss Ruth Blessinger at Burlington; Miss Viva Scilley at Maxwell; Miss Ida H. Hare in S.S. No. 18, Walpole; Miss Dorothy E. Coulbeck in S.S. No. 41, Echo Place; Miss Laura L. Ebert in S.S. No. 4, Rosedene; Miss Bessie Gemmell at Copetown; Miss Frances H. Pereira in S.S. No. 4, Saltfleet Township, Wentworth; Mr. Robert R. Cleghorn at R.R. No. 7, Dunnville; Miss Vera F. Forrest at S.S. No. 5, Walpole, Haldimand County; Miss Elsie M. Curtis at R.R. No. 1, Orangeville; Mr. George Anderson at S.S. No. 7, Nelson; Miss Lexxie E. Cooper at Orangeville; Miss Estella M. Pond at R.R. No. 3, Jarvis; Miss C. Fern Hewitt at Binbrook; Miss Angela M. Beal at S.S. No. 17, Township of Brantford; Miss Mildred A. Haist at R.R. No. 5, Fenwick; Miss A. B. Caley at S.S. No. 20, Burford and S.S. No. 13, Windham; Miss Gladys Skinner at R.R. No. 2, Thorndale; Miss Marjorie H. Lamb at R.R. No. 2, Nanticoke; Miss Mary G. Giles at S.S. No. 8, Charlotteville; Miss Laura M. Black at S.S. No. 5, Tilbury East; Miss Bessie Lillico at S.S. No. 7, Blenheim Township; Miss Frances Young at Box 105, Deseronto.

London Normal School.—Miss Myrtle McCoubrey is teaching in S.S. No. 5, Caistor Centre; G. Hamilton Robson in S.S. No. 14, West Luther, Wellington Co.; Miss Irene Shields in the Union School No. 1 and 2, Adelaide and West Williams; Miss Olive Mickle near Harrow, Essex; Miss Aileen Core at Middlemiss; Miss Elsie Ainslie in S.S. No. 2, Mersea, Leamington; Miss Mary Robertson in Union School No. 2, Tilbury East, Port Alma; Miss Ada Vickerman in S.S No. 1 and 7, Tilbury West, Essex; Miss Frances Hyatt in S.S. No. 4, Laho; Miss Helen Rose at Embro; Miss Willena Keys in S.S. No. 5, Biddulph; J. Raymond Bishopp at Arkona; George T. Sutherland in S.S. No. 18, Colchester South; Miss Charlotte I. Vining in S.S. No. 19, London Township; Ernest MacKellar in S.S. No. 6, Colchester; Mary L. Thomson at Kingsville, R.R. 1; R. B. Dobson in S.S. No. 2, Tilbury; Miss Vera Buttery at Corinth; Miss Corinne Howe at Alvinston; Miss Alma M. Bilyea at R.R. 8, Parkhill;

M. Cole at Wallacetown; Miss Mamie N. Moir in S.S. 15, Brooke; Miss Emma Brazier in S.S. 7, London Township; Miss Willa B. Stewart at Whalen; Miss Gretta Sutton in Union School S.S. No. 20, Southwold and S.S. No. 8, Dunwich; Miss Lily R. Hoffman in Chesley Avenue School, London; Miss Lillie M. Hall in S.S. No. 1, West Oxford; Miss Ruth Facey at Currie's Crossing; Miss Hazel W. Hawes at R.R. 5, Thamesville; Miss Marion Grant at the Boyle Memorial School, London; Miss Marjorie Sadlier in S.S. 11, Caradoc Township; Miss Helena J. Young in S.S. No. 5, Zone, Bothwell; Miss Leopoldine Houle at Windsor; Miss Winnifred A. Flack S.S. 8, West Zorra; Miss Ferol Matthews S.S. 6, Delaware; Miss Myrtle V. Dunlop in S.S. 2, Chatham and Camden Union School; Miss Ruth Dawson in S.S. 8, Howard Township; Miss Susan McGregor at Croton; Miss Vesta J. Snyder at Holstein Continuation School, Grey County; Miss Claire Harrett at S.S. 1, Pelee Island; Miss Myrtle Wyatt in S.S. 4, Caradoc; Miss Helen Rose at Embro; Miss Ella M. Poole at Dyer's Bay; Miss May Nelson at R.R. 4, Brantford; Miss Nellie Anderson in S.S. No. 10, Usborne; Miss Mabel A. McNamee in S.S. 9, Biddulph; Miss Dorothy E. Burtch in S.S. 6, Romney Township; Miss Annie MacDougall in S.S. No. 6, Caradoc; Miss Jeanne K. Taylor at, Horning's Mills.

North Bay Normal School.—Miss Katie Dinner is teaching at Bracebridge; Miss E. Lillian Hall at Clover Valley, R.R. 1, Haileybury; Miss Catherine C. Redmond at Deux Rivieres; Miss Dorothy I. McLean in S.S., Eastnor; L. Lawson at Brethour; Miss Rose Taylor at North Bay; D. C. Kinahan at Desbarats; Miss Violet A. Mastin at S.S. No. 1, Johnson, Algoma; Miss Bessie S. Quirt at Burk's Falls; Miss Elsie Harris at Carnarvon; Miss Enid N. Froud at R.R. 2, Powassan; Miss Lilly C. Samson at Goulais Bay; Miss Ethel I. Richards at Bracebridge; Miss E. Christine Kinton at North Cobalt; Miss Jessie McIntyre at Admaston, R.R. 1; Miss Wilma M. Duff in S.S. No. 3, Lefroy, Algoma; Miss Nora J. Bailey in S.S. No. 1, Prince; Miss Winnifred Kent at Kentvale.

Ottawa Normal School.—Miss Morna B. Cameron is teaching at McDonald's Corners; J. A. Laframboise in S.S. 15, Charlottenburg; Miss H. Bertha Lough near Beachburg; Miss Floria V. Mather in S.S. 5, Oxford; Miss B. Anna Dow at R.R. 1, Bonar Law; Miss Letitia McCann in S.S. 3, Ramsay; Miss Hazel P. Robertson in S.S. 4, Goulbourn; Miss I. May Hollingsworth in S.S. 3, Bastard Township; Gurley Wyman at Pt. Fortune, R.R. 1, Quebec; Miss Evelyn M. Kearney at Maitland; Miss Isabel Burnett at Kinburn; Miss Alberta M. Otto at Newington; Lester Bowes in S.S. 9, Lanark; Miss Margaret Healey in S.S. 15, Huntingdon; Miss Eleanor V. Aylsworth at R.R. 6, Napanee; Miss Evelyn Gray at Chesterville; Miss Agnes A. Ennis in S.S. 8, Bathurst Township; Miss Edna I. Hill S.S. 6, Admaston; Miss Vila Innes in S.S. 2,

West Hawkesbury; Miss Bertha Melville in S.S. No. 1, Howe Island; Miss Helen M. Hemphill in S.S. No. 2, Huntley; Miss Martha Dalgleish in S.S. No. 15 and 17, Mountain; Miss Josephine at No. 2, Wilberforce; Miss Geraldine Percival at Glen Buell; Miss Laura D. Carson in S.S. No. 4, North Gower; Miss Gertrude Livingston at Perth, R.R. 1; Miss Agnes M. Chant at R.R. 4, Mallorytown; Cecil D. Wallace at Edwards, R.R. 2; Miss Pearl C. Marjerrison at Monklands; Miss Edythe V. Hunt at Franktown; Miss Viola Spratt in S.S. 3, Faraday.

Peterborough Normal School.—Miss H. Jean Middleton is teaching at S.S. No. 1, Mariposa; I. Hyslop at Washago; Miss Mabel R. Jackson at S.S. 6, Cadmus, Durham Co.; Miss Edna A. Davidson at Whitby; Miss Mabel Rose at Eddystone; Miss Hilda Rouse at Cormack; Miss E. Lucia McTear in Moscow as Principal and Miss Brenda McTear as Assistant; Miss Myrtle Allen at S.S. No. 4, Osgoode; Miss Anna Fitzgerald in Clydesdale; Miss Flossie Rundle in S.S. No. 8, Leaskdale; Miss Myrtle Benedict at Oak Hill School, S.S. 18, Hope; Marshall Malcolm at S.S. 1, Cartwright; Miss Mary S. Brawn at Nogie's Creek; Miss Clare Forsyth at R.R. 1, Uxbridge; Miss Vada Polk at Kingston; Miss M. McCready at S.S. No. 5, Milltown, Tyendinaga Tp.; Edward J. Liddle at S.S. No. 13, Madoc; Miss Daisy Webber at Claremount; Miss Ada I. Bonner in S.S. 3, South Monaghan Tp.; Sheldon A. Osterhout at S.S. No. 19, Rawdon; Miss Lila E. Nelson near Warkworth; Miss Grace Walkinshaw at S.S. No. 11, Sophiasburg Tp.; Miss Katherine Tilden at U.S.S. No. 1, Lobo and Caradoc.

Saskatchewan

As a contribution to the great work of public elementary education in Saskatchewan, the Masonic Lodges of the Province are offering (with the sanction of the Masonic Grand Lodge) not more than fifty (50) scholarships of three hundred dollars ($300) each to assist prospective teachers, who hold at least second class diplomas valid in Saskatchewan, to complete their professional training in either the Regina or Saskatoon Provincial Normal School.

The offer of these scholarships will, it is hoped, tend in some measure to overcome the shortage of teachers, more especially in outlying rural schools, by encouraging young men and women possessing the highest qualifications to enter this field of patriotic service.

All successful applicants, as in the case of other public school teachers, will of course be under the sole jurisdiction of the Provincial Department of Education. In granting this form of financial assistance, the committee in charge requires that all successful applicants shall teach for a specified time in the more pioneer rural public school districts of the Province where the services of the ablest teachers are urgently needed.

Application forms for these scholarships may be obtained by bona-fide applicants from the Grand Secretary, A.F. and A.M., Cornwall Street, Regina.

Successful applicants must obtain cards of admission to the Provincial Normal Schools from the Registrar, Department of Education, Regina.

Nova Scotia

About 600 teachers attended short Summer Courses in Nova Scotia this year. This is about one-fifth of our entire teaching force. Not only was there the usual summer school at the Normal College, Truro; but each inspector held a training school for teachers and prospective teachers.

Schools are re-opening with the usual large change in teachers. Donald Messenger assumes the principalship of Canning, G. V. Jacques goes to Hantsport and B. C. Silver to Walfville.

Mr. Elbert Paul is on the Glace Bay High School staff. Miss Elsie Bond is Principal of Milton, Queens County, and Miss Catherine Spinney has transferred herself from Truro to Halifax. Mr. Reginald Ripley has resigned the principalship of Oxford to accept a position in Truro Academy. Miss Alice C. Archibald becomes principal at Armdale, Halifax; and Miss Miriam G. Chisholm will take charge of the Bible Hill School, Truro.

Principal M. O. Maxner, Luxenburg, was the efficient teacher of botany and chemistry at the Rural Science Summer School, Truro. Principal D. G. Davis, Truro, spent the summer at Columbia University, New York.

Miss Mary Drysdale refused an attractive position in Wolfville schools to take charge of a two-department school in Wallace, Cumberland County. She believes rural districts need her services more than town schools do.

Miss Mary Jennison, Truro, was the special teacher in Rural Science and Playground Methods at Inspector MacKinnon's Training Institute in Baddeck last month. That interest in supervised play is growing is evidenced by the frequent calls upon Miss Dora M. Baker, Assistant Rural Science Director, Truro, for lectures and demonstrations on this subject. Miss Baker is really the leader of such work in rural Nova Scotia. As provincial chairman of the School and Home Committee of the Women's Institutes, she is brought into touch with both sides of a child's education.

Quebec

The school for teachers at Macdonald College opened on September 7th. The students admitted are as follows:

Intermediate (model school class)	113
Elementary Class	24
Kindergarten Director's Class	2

One student from Newfoundland has also been admitted as a partial student.

Miss Mary Pomeroy has been appointed instructor in drawing and household art, and Mrs. Hobbs has obtained the position of physical instructor at Macdonald College.

Mr. J. B. Ferguson, B.A., formerly of Huntingdon High School, has been appointed principal of the Gault Institute, Valleyfield, P.Q.

A new protestant high school is to be built in Montreal owing to the congestion in the present two schools, viz., the Montreal High School and the Commercial and Technical High School. The new building will not be ready until 1922. It will be located on St. Urbain Street near Rachel Street. This School is necessary owing to the increase of pupils in the northern district and to the increasing number anxious to have a high school education. The total price of the building is expected to be in the neighbourhood of $467,000.

Three new buildings will help to relieve the congestion in Montreal schools. The new Devonshire School in St. Lawrence Ward contains twenty-eight class rooms, two kindergarten rooms, a division room, a sloyd room, a cookery room, a gymnasium, a medical room and various officers and waiting rooms.

In Maisonneuve district there is a new school opened on Morgan Boulevard, practically identical with Devonshire School. Twelve additional rooms have been added to the Lorne School at Point St. Charles, in addition to a kindergarten room, a sloyd room, a division room, a medical room, a gymnasium and a teachers' room.

The West Hill High School and the Kensington School, formerly under the control of the Coteau St. Pierre School Board, has been transferred to the Montreal Protestant Board, which now has forty-one public schools and four high schools under its control.

Manitoba

This Province was well represented at the Imperial Conference of Teachers' Associations, held August 10th-13th, in Toronto. Hon. Dr. R. S. Thornton, Minister of Education, headed the representation, and with him were C. M. McCann, Chief Clerk of the Department; W. A. McIntyre, M.A., LL.D., representing the Normal Schools; J. W. Gordon, E. E. Best and T. M. Maguire, of the Public School Inspectors' Association; H. W. Huntly, M.A., and C. W. Laidlaw, M.A., representing the Manitoba Teachers' Federation; and P. D. Harris, B.A., and E. K.

Marshall, M.A., of the Manitoba Educational Association. Dr. Thornton gave a special address on the method of dealing with the Non-English speaking districts which has made his department famous. His speech was one of the most interesting and illuminating given during the whole conference.

The Portage la Prairie School Board has given notice through the public press that any school boy who gambles or plays pool shall be suspended for thirty days if his guilt can be established to the satisfaction of the principal and the trustees. The ruling applies to both public school and collegiate departments, and was made because of the serious inroads being made upon the time and attention of pupils by these questionable amusements.

Among the changes made in the teaching staff of the Province are the following: Inspector Dunlop, of Brandon, is assisting in the Normal School at that city. Mr. W. McIntosh, of Winnipeg, is attached to the Provincial Normal School in Winnipeg. W. J. Gordon Scott has left Gilbert Plains to take the department of history in the Brandon Collegiate. He is succeeded by Mr. Hindle who comes from New Brunswick. G. F. Elliott resigned the principalship of the Dauphin Collegiate to take a similar position on the staff of the new Centennial School in Kildonan. He is succeeded by Mr. Ball of Milestone, Saskatchewan. Principal Struthers has left Treherne for Emerson, and W. A. Anderson has resigned from the Virden Collegiate Institute to resume post-graduate work in the University of Manitoba.

New Brunswick

The Normal School Entrance Examinations were held at fifteen different places in the Province in July last. Six hundred and seventy-one wrote the examinations for the various classes. Of this number 66 passed for First Class Entrance, 249 for Second Class, 196 for Third Class and 160 failed to gain any class.

The Normal School at Fredericton opened on September the first with a record attendance of 329 enrolled as student teachers. One hundred and six of the number entered for First Class, 209 for Second, and 17 in the French Department for Third Class. A number of those who entered for the higher classes qualified on Matriculation certificates.

At the same time and at many of the stations where the Normal School Entrance Examinations were held, Matriculation examinations were written by 208 candidates, and High School Leaving Examinations by 42 candidates. Thirteen Matriculants passed in the First Division, and eighty-two in the Second Division. The remainder either passed in the Third Division or failed. Nineteen of the High School Leaving candidates passed in the Second Division; the remainder either passed

in the Third Division or failed. Six of the First Division candidates were prepared at the Fredericton Grammar School, three at the St. John Grammar School, one at Campbellton Grammar School, one at Moncton Grammar, one at Rothesay Consolidated and one at St. Michael's Academy, Chatham. The leader for the province also belonged to the Fredericton Grammar school.

L. A. Gilbert, M.A., for two years principal of the Campbellton Grammar school, has resigned to take up the study of law. Fred. A. Patterson, B.A., has been appointed to succeed Mr. Gilbert in the Campbellton Grammar school.

Miss Salome Townsend, B.A., has taken the principalship of the Gagetown Grammar school, succeeding Miss Anna Jackson, B.A. Fred Patterson, B.A., for some years teacher of French and Science in the Fredericton High school has been appointed principal of the Grammar School at Edmundston.

Mr. A. R. Stiles, B.A., fromerly on the staff of the Fredericton High school has assumed the principalship of the Consolidated School at Riverside.

J. W. Burns, B.A., M.S., has been appointed teacher of Science in the Fredericton High school. Miss Gladys Gregory, B.A., and Miss Sadie Thompson, B.A., have also been added to the staff of this school.

Dyson W. Wallace, M.A., who resigned the principalship of the Grammar School at Woodstock at the close of last term has accepted reappointment there for another year.

The Senate of the University of New Brunswick recently authorized the appointment of an additional professor in Forestry. Mr. Bertram E. Claridge, M.F., Ph.D., has been appointed to the new position. Paul Klimpke, M.A., has been appointed by the Senate to the position of Professor of French and German, in place of Professor Edward Elias, M.A., who has been taking special courses at Cambridge through the summer. Both of the new professors are graduates of Yale.

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The School

"Recti cultus pectora roborant"

Editorial Notes

Teachers' Institutes

October is an ideal month for Teachers' Institutes. Travelling is easy and pleasant, the roads are clear and hard, the atmosphere cool and bracing; the leaves already tinted with crimson, have not yet fallen. To go and come over country roads is a treat. Then, too, the Institute comes at a time when the teachers, after their summer vacation, have been at work long enough to realize something of what their problems and difficulties will be this year.

Teachers' Institute offers many advantages to those who attend in the right spirit—the spirit of co-operation. To get something from a Teachers' Institute, however, we must bring something to it, if only our difficulties. Perhaps the greatest advantage of these meetings is the opportunity of meeting fellow teachers with similar problems, and of learning from those with longer experience. Then, too, it is the Inspector's opportunity. The visiting lecturer may bring word of recent advances or experiments in teaching or organization, but his opportunity is limited. He cannot know, as the Inspector can, the peculiar needs of the teachers he addresses. He is not so close to their problems. Perhaps for that very reason, his address may all the more awaken some new interest which may be pursued in after weeks.

To get the greatest good from the Teachers' Institute every teacher should take some part, even if it is only to contribute a query to the question drawer. And why should the activities of a Teachers' Institute be limited to the two days during which meetings are held? Circular letters or bulletins are not expensive and the programme of a convention can be arranged in this way with the aid of all the members, weeks or months before the convention. New interest might be aroused, and topics for discussion prepared not by one teacher but by many. Now is the time for the new executives to start to plan for next year.

Financing the School

Year after year the budgets for education seem to increase. This condition is not peculiar to our country or to our time. In England the total cost of education in 1918-19 was £42,166,191. The estimated cost for the current year is

£84,685,116. The cost of elementary school salaries alone amounts to £43,296,355. Nor is the phenomenon a new one. The expenditure, on maintenance only, per scholar in average attendance in the English board schools increased steadily from £1 8s. 4½d. in 1872 to £3 0s. 9d. in 1902. Since 1902 the cost per pupil in England has increased more than half.

This increase in cost brings to the front problems of finance. More money must be raised. The burden must be placed on shoulders fit to bear it. All who receive the benefits of the expense should help to bear the cost. Hence in recent years we see a growing tendency to shift much of the burden from smaller to larger units of population. This tendency will probably grow. It is not hard to account for it. Improvements in transportation have made it easy for people to move from one section of the country to another or from one Province to another. Look at the register of any school of ten or fifteen years ago and see how many of the pupils whose names you find there are now living in the municipality or even in the Province that bore the burden of their education. No doubt the country as a whole gets directly as well as indirectly the benefit of the expenditure of any particular province or district in education. Hence the movement in recent times tends to shift at least some of the burden to the largest unit of all, the state as a whole. In England and Wales this has been done. Out of an estimated total expenditure of over £84,000,000 for education for the current year, less than £33,000,000 is expected from local rates, and the balance from national taxes. In the United States the tendency is also noticeable. Under the Smith-Hughes bill, 1917, the federal government will grant in 1921-22 to the states $4,200,000 for various forms of agriculture and industrial education, while during the same period the grants under the Smith-Lever Act, 1914, to aid agricultural colleges in rural extension work, will amount to $4,080,000. In Canada, under the Agricultural Instruction Act, 1913, and the Technical Education Act, 1919, substantial grants are made to the various provinces for these types of education. New forms of federal aid will doubtless come in time. The problem of educating the immigrant, the burden of which now falls on particular provinces, naturally the youngest and least populous, would seem to find a natural solution in this way.

Education Statistics

The Report of the Conference on Education Statistics recently published by the Education Division of the Dominion Bureau of Statistics furnishes abundant evidence of the difficulty of comparing educational conditions in the various provinces of Canada. Each year since 1914 the census Department of Canada has furnished in the Canada Year Book some information on education. But many causes combined to limit the value

of the information it was possible to supply. In Alberta the school year corresponded with the calendar year; in Manitoba, annual school meetings were held on the third Monday in July. In Ontario, the school year for secondary and technical schools ended on June 30th, while that for public and separate schools was the calendar year. The Conference recommended that the educational statistics of the several provinces, or at least those relating to personnel rather than finances, should be collected for school years ending June 30th. There was much variety also in actual practice in the different Provinces with respect to the grading of pupils. In Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta the curriculum is divided into twelve grades the last four of which are high school grades. "In Quebec, the Roman Catholic schools divide the work into eight "years". These "years", however, do not indicate the actual time spent on each step of the work. The first four "years" are called the Elementary Course; the fifth and sixth, the Model Course; and the seventh and eighth, the Academy Course. In the Protestant schools the work is divided into eleven "years", the first seven being the Elementary Course; the eighth, ninth, and tenth, the Model Course; and the eleventh, the Academy Course. The academy year is roughly equivalent to pass matriculation to McGill University, and would thus correspond to Grade XI in other Provinces". Similar variation occurred in the matter of the grading, experience, and salaries of teachers.

In spite of these drawbacks the Dominion Bureau of Statistics has done valuable work in collecting and comparing the Educational Statistics of the various Provinces, as recently published in the Historical Statistical Survey of Education in Canada. Canadians know too little about educational conditions in any province but their own. Students of Canadian education are indebted to Professor Cudmore and Mr. MacLean of the Bureau of Statistics, for the opportunities of comparison and research opened up by this store-house of information.

The Noon Hour

Of all the varied problems connected with the rural school that of the noon hour used to be the most perplexing. The teacher usually "boarded" about half a mile from the school, and, small blame to him, went to his boarding-house for a good, hot dinner. Before dismissing, he adjured the pupils by all that they feared that they must not "run around" or "throw things around" in the schoolroom during noon hour. But when he returned, shortly before one o'clock, the distinct odour of dust in the air and the sight of an occasional missile that juvenile precaution had failed to remove, told him more plainly than words that his injunctions had not been obeyed.

Then began an "investigation" in comparison with which a police court is tame and insipid. After much examination of witnesses, mainly reluctant witnesses, the fact was frequently established that the largest, most studious, most demure girl in the highest class had "started it". What was to be done? The strap? Scarcely. "Keep her in"? Likely. But the teacher's temper was spoiled for the afternoon, also his digestion; an hour or more of time had been wasted; some of the teacher's prestige was dissipated; the whole spirit of the school had suffered.

In recent years this problem of the noon hour has been solved by the inauguration of the "hot lunch" which the "big girls" prepare, which teacher and pupils partake of together, and which the little girls "clear up". The boys, too, have certain duties assigned them in turn.

The hot lunch has been the means of securing the co-operation and interest of parents and trustees. The whole scheme is easily arranged by the resourceful teacher and it works wonders in the general discipline of the school. Besides, it brings a grant from the Department of Education. Any teacher who is still working on the old scheme should experiment with the new idea.

A Monthly Institute

The Ontario Teachers' Institutes have responded heartily to the appeal of THE SCHOOL for a largely increased subscription list. The returns already in show an increase of more than forty per cent over last year in the number of subscribers getting club rates through the Teachers' Institutes. No doubt response from the Conventions in the western provinces will be as satisfactory. The western provinces have for years given generous support to THE SCHOOL both in subscription and in contributions. THE SCHOOL fulfils many functions of a teachers' institute. With greater co-operation, of which the increased subscription list is a most encouraging sign, it will do more.

An Educational Tour—II.

(Continued from October issue)

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto.

LIKE migrating birds, the teachers travelled mostly at night and, on Tuesday morning, their train pulled into Sault Ste. Marie, the Canadian "Soo", whose name is pronounced by many of its citizens, *so-s'nt-mary*. Here they had arrived before they were expected (teachers

are naturally punctual) and had some time to wait and to take a morning walk. As they strolled up and down the station platform, Principal Alex. McQueen of Ryerson Public School, London, Ontario, who began his teaching career six months before Confederation, told the writer of the summers he used to spend fishing around Sault Ste. Marie, of the old *Ontario* and *Quebec*, steamers that plied between Sarnia and the upper lakes in those early days, and of the old Indian village which was all that existed of Sault Ste. Marie at that time. Not knowing the double capacity in which the reporter was travelling, Mr. McQueen was greatly surprised to find his reminiscences set forth in full in the *Sault Star* that afternoon.

A New Ontario Industry—A Pile of Pulp Logs

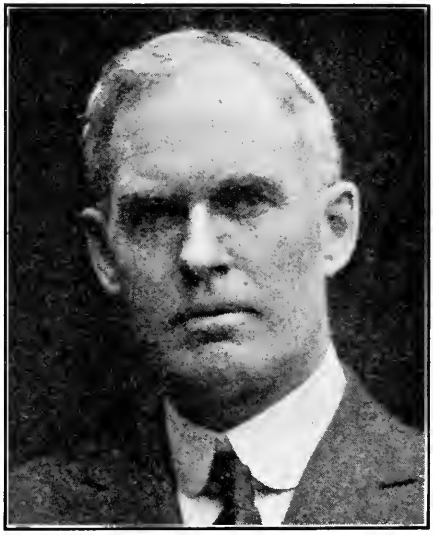
Before eight o'clock, the local reception committee, headed by Inspector L. A. Green and Principal G. A. Rudlen of the High School, arrived with a fleet of forty motor cars and whisked the teachers off to breakfast at the G.W.V.A. club rooms. Here was a room so large that all breakfasted together. The morning meal over, the ladies of the party were taken in automobiles for a tour of the city, while the men visited the steel plant. Later, both men and women made a careful inspection of the pulp and paper mills and learned exactly how paper is made.

At noon a basket lunch was served on the bank of the canal in order that the teachers might see some of the large vessels going through the locks. As it happened, no vessels were obliging enough to come along at that particular time but after lunch the teachers were given a trip through both the Canadian and the United States locks on the steamer *Bon Ami*. There was much discussion of locks and locking, of canal tolls,

relative size of canals, of the fact that the Canadian Soo is more than twice the size of its United States neighbour, and the listener could imagine how intelligently these teachers will deal with the geography of this part of Ontario when they stand before their classes during the school year. Truly, there is no medium of education so efficient as travel!

Perhaps it may be said here that the teachers were not travelling "on the cheap". Their meals were paid for at each place by the treasurer —there was no expense to the municipality except what each town or city might choose to expend by way of advertising. This is an important consideration when determining a policy for the future in regard to these tours.

PRINCIPAL R. M. SPEIRS
Frankland School, Toronto



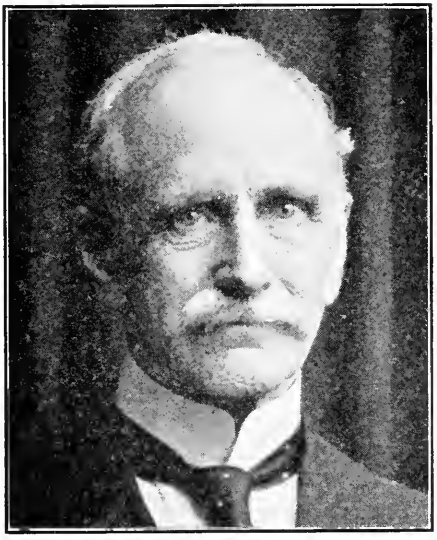
PRINCIPAL CHARLES E. KELLY
Memorial School, Hamilton

While the teachers were assembling outside of the pulp and paper mills, just before lunch, the members of the Rotary Club of Sault Ste. Marie perpetrated a "steal", to use one of the technical terms of "baseballese". They quietly picked up the members of the committee of management and several of the officials and commandeered their presence at the Rotary lunch. Here the guests were entertained with delightful cordiality and were each called upon to address the rotarians. The agricultural member of the Rotary club corralled, after lunch, the President, the Secretary, and the reporter of the tour and invited them to see his dairy farm. A dairy farm in Northern Ontario! Of course, and a magnificent one, sixty head of the finest Holstein cattle, a modern

stable, equipped in the most thorough fashion, milking machines, and all the up-to-date devices for the production of the best in dairy products. For miles around Sault Ste. Marie there are excellent farms, as our host was able to demonstrate that afternoon. The next point of interest was his dairy plant and his ice cream factory in the city. Then the new Cody School was visited and found to be modern in every detail, well situated, well equipped, and beautifully furnished.

At six o'clock, having inspected Sault Ste. Marie from every angle and having been charmed with what they saw and with the warmth of their reception by the citizens, the visiting teachers met at the G.W.V.A. rooms for evening dinner. About eight o'clock all repaired, on invitation, to a garden party held for the benefit of the Children's Aid Society on

PRINCIPAL MARTIN KERR, B.A.
Earl Kitchener School, Hamilton



PRINCIPAL JOHN MUNRO, B.A.
Stinson St. School, Hamilton

the Central School grounds. Community dancing on the pavement brought to an end the second day of the tour and a most successful and enjoyable day it was.

Sault Ste. Marie gives the visitor the impression that its citizens are energetic, progressive, optimistic. It is a clean city. Not that other cities are lacking in this characteristic, but the Soo seems to shout neatness and cleanliness at the visitor as he enters. This city has ten Public Schools, six Separate Schools, a High School; and a Technical School is in course of erection. There is an excellent public library and a branch library in the west end.

Industrially, Sault Ste. Marie is one of the important cities of the

Dominion. According to the statistics of the Board of Trade, the largest steel and paper manufacturing industries in Canada are here; also lumber, tar, and chemical industries. The tonnage passing through the Sault locks each season is, it is said, three times as great as that which passes through the Suez Canal. The soil of the district is for the most part a rich clay loam; areas of sandy loam with clay subsoil are also found. A good crop every year is practically assured and there is always a good market. Had the farmers been able to forecast the continuous warmth of the summer of 1921, they could have raised corn successfully. Sunflowers are grown as a substitute for corn and they make excellent silage. In minerals such as iron, copper, gold, pyrites, in lumber, in available electrical energy, in shipping and railway facilities, in game animals, in beautiful scenery, in good homes, Sault Ste. Marie is wealthy. And the city can scarcely have any more enthusiastic advertising agents than the teachers who enjoyed its hospitality on August 23rd, 1921.

(*To be continued.*)

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Suggestions in Matter and Method for a Lesson on Moulting Fowl

Preliminary Class-room Lesson

Hold a discussion upon the changes in the plumage of domestic birds at this season of the year. Compare the moulting of birds with the shedding of the skins of snakes and toads, also with the casting of the hair of mammals. Consider why it is of advantage to birds to get a complete suit of new clothes upon the approach of winter. Question the pupils upon the length of time required for completing the moult and upon the reason why moulting birds do not lose their power of flight. These and other questions should cause the pupils to realize that they do not yet know all that is to be learned about how moulting takes place and the influence of the changes upon the actions of birds.

To assist the pupils to learn through observation assign the following problems as an out-of-school exercise.

1. Do all the old feathers drop off before any new ones are formed?
2. Do all the hens in a flock moult at the same time?

3. How does moulting influence egg production (*a*) at the stage of the first shedding of the feathers, (*b*) at the stage of rapid growth of the feathers?

4. Do the pullets moult? In case they do, find out the date on which they were hatched.

5. Does moulting at any stage appear to be painful and has it any influence upon the hen's moods?

Class-room Lesson

Discuss with the pupils the results of their observation exercises.

The pupils by examining pin-feathers will learn the mode of growth of the young feathers. They will see that the brush-like form of the growing feather is due to the fact that the sheath splits from the tip inward to allow the feather to grow out.

Pupils also compare a young feather and an old one and note differences in colour, cleanness, appearance of margins and quantity of soft warm fluff. The pupils remove the sheath from the base of a pin-feather and find the soft dark blue or pink mass within. This is the pulp. Its use for nourishing the growing feathers is inferred.

The white jointed membrane inside a mature feather is the sack that contained the pulp

To the Teacher

To guide the thought of the lesson to correct conclusions and to make the lesson serve some useful economic end, the teacher should keep in mind the following facts —

Fowls moult at the approach of winter so that they may be provided with a new coat of feathers having soft fluffy linings whose air spaces contribute greatly to warmth.

Egg production and the growing of the new coat of feathers both make such heavy demands upon the nutriment within the bird's body that one can take place only at the expense of the other.

Heavy laying birds are likely to continue laying until late in the autumn and moulting is thereby delayed. This laying period may be prolonged by feeding the fowls heavily upon animal foods as milk and meat scrap. The very late moulting which is thus forced may cause the fowls much suffering and subsequent loss in vitality by exposure from lack of feathers during early winter.

Early moulting can be forced by feeding the fowls heavily early in August and then partly starving them. By hastening the moulting in this way, the birds are ready to resume laying early in winter when new-laid eggs sell at the highest price. This, like other methods of forcing nature's hand, has not been found to be productive of permanent good; for egg production though earlier is always proportionately lighter.

Pullets, hatched in March and intended for winter laying usually moult in the autumn and this delays the beginning of the laying period. It is therefore not advisable to have the chickens hatched before April and, in the case of such early maturing breeds as Leghorns, the latter part of April is the best time for the hatch.

It is noticeable that when the greater part of their old feathers have been shed and the new ones are growing out, the fowls are shy and nervous and refrain from "roughing" it with the other members of the flock to reach the food. Gentle treatment such as will not give cause for worry or alarm among the birds is necessary at this stage, while shelter from rainy and cold winds is a necessity.

A Nature Study Course for the Northern Counties

In certain counties that occupy the Laurentian peneplain, agriculture is an industry of only secondary importance. In these counties the teaching of agriculture is subordinated to the nature study lessons.

The teachers in such areas, hampered by lack of time and restricted by range of materials, are forced to modify the nature study course as laid down in the school curriculum into one better suited to the conditions peculiar to their locality.

The course in Nature Study that is described below has been adapted from that outlined by Mr. J. E. Greaves at the convention of the teachers of North Hastings. In the opinion of the convention this course is well suited to the needs of their locality.

The lessons are taken up with the school as a whole rather than with individual classes. The younger pupils are encouraged to find objects for study but are not expected to take any active part in the more difficult lessons such as those on solids, heat, electricity, etc. Each topic is taken up at whatever time the material is most easily obtainable. The house-fly for example, may be studied either in June or in October and the maple either in sugar-making season or in the autumn. As the objects required for the lessons are easily obtained by the pupils the course is very suitable for promoting out-of-school observations by the pupils and this kind of observation work is stressed.

Course of Study

Insects—(*a*) Beneficial: bee, lady-bird. (*b*) Injurious: house-fly, potato beetle, grasshopper, tent caterpillar. Study surface features, habits, life.

Birds—(*a*) Beneficial: woodpeckers, chick-a-dee, yellow warbler. (*b*) Injurious: crow, blackbird, hawk, owl, English sparrow. Identification, habits.

Mammals—(*a*) Wild: woodchuck, racoon, mink, fox, beaver. (*b*) Domestic: cow, horse, sheep, dog, cat, hen, pig. Description, habits, food, etc.

Trees—(*a*) Deciduous: maple, birch, poplar, beech. (*b*) Evergreen: pine, spruce, balsam, cedar, hemlock. (*c*) Fruit: apple, plum, pear, cherry. Identification by shape, leaves, bark, flowers, fruit. Economic uses.

Wild Flowers—Trillum, dog-tooth violet, spring beauty, Jack-in-the-pulpit, golden-rod, aster. Identification of, pressing, how propagated, parts of the plants, where found.

Garden plots—Vegetable plots, flower plots. Preparation of soil, seeding, care of plants, harvesting and storing.

Soils—Clay, sand, gravel, loam. Properties of each, crops adapted to each. Identification and distribution in the locality.

Solids, liquids and gases—Properties and examples.

Atmosphere—Composition, temperature and thermometers, pressure and barometers, and common pump, humidity.

Practical application of steam, heat and electricity.

Hygiene in a Primary Room

M. ISABEL WILSON
Ryerson Public School, Toronto

LITTLE health talks may be made both interesting and a source of lasting good to the children of a primary grade. It is there that habits are formed so let us do something to help them form good habits. It is easy to create an interest in certain simple laws of health and right living which are so necessary to their happiness and well being.

These talks may include personal cleanliness, care of the hair, the teeth, the food, the clothing, care of the home, the yard, the school-room, etc. Necessarily these lessons are very simple. The use of fairy stories, rhymes, contests and songs make this work easy and attractive. If we just tell the children to brush their teeth it has little effect but introduced in a story or rhyme they are apt to carry away the ideas desired. Colgate's have pictures and little books with rhymes in them. The Metropolitan Life Insurance Co. has books on *Care of the Teeth, Child's Alphabet, Mother Goose.*

The pictures are very attractive and the rhymes appeal to the children. These will be sent free to teachers. The Mother Goose rhymes may be used for supplementary reading. The rhymes are not exactly like the Mother Goose rhymes but there is enough of the old for the children to greet an old friend and yet enough of the new to stimulate them to read the rhyme.

The Child Health Organization, 156 Fifth Ave., New York, have *Cho-cho and the Health Fairy*—6 Fairy Stories and *Rosy Cheeks and Strong Heart.* The children enjoy "Cho-cho" very much.

This rhyme on the teeth will impress the idea of cleanliness,

"Twenty-four white horses on a red hill,
Now we scrub
Now we rub
Now we clean with a will."

Another rhyme sung to the tune of "The Mulberry Bush" is another device to make teeth cleaning a daily habit.

"This is the way we clean our teeth,
Clean our teeth, clean our teeth,
This is the way we clean our teeth,
Early every morning."

This song may be adapted to various other activities as "This is the way we take a bath", "This is the way we brush our hair", "This is the way we wash our hands", etc.

The following questions directed the children's attention to their teeth. Do you know how many teeth you have? Are they all alike? Do they do the same kind of work? Are the teeth very important? How should they be treated? How many have a tooth-brush? Is it your own? Do you take care of it? How do you use it? (Teach the correct way of brushing the teeth). How often do you brush your teeth? Why should we be careful about our teeth? What is a dentist? What does he do? How often should we go to a dentist? Did you ever have a tooth-ache? What caused it? What causes a tooth to decay? Is it possible to prevent a tooth from decaying? Can you be perfectly healthy without good teeth? Did you ever notice a thin film which covers your teeth? This film which covers unclean teeth holds many germs. These germs if not brushed off and the mouth rinsed, will destroy the gum tissues and cause the teeth to decay. It is to brush off this film that we must clean our teeth often.

Care of the hair. The hair needs to be cleansed with water often. Brushing the hair keeps the scalp free from dandruff and makes the hair lossy. Cleansing of brush and comb, individual brush and comb, and proper dressing for neat girls and boys are points that need to be discussed. One hair under a magnifying glass is a source if interest.

A fairy story calling the fingers fairies, doing wonderful things for the body, may be told. The eyes are bright windows with eyelashes for curtains. They are washed with water and kept so clean. They should not be strained by using in dim light or by letting the light shine in front of them or by reading when lying down in bed. These windows need to be shut for at least nine hours. The nose lets air into the body so is like a chimney. This chimney only likes to take in fresh air so our rooms should be well ventilated, and at night we should sleep with the window open. Inside the chimney are little hairs that keep dirt from going into the body.

The importance of baths, of clean clothes, of pure air, of sunshine, of exercise, rest and sleep and of cleanliness are all points to be spoken of often.

Teach them *not* to drink from a cup used by another. Show them how to make a drinking cup from a piece of paper.

To keep the child at the top pitch of health he must be free of needless worries which act as poisons and also he must be allowed to benefit by the stimulus of success. These two rules of mental hygiene are of great benefit. Even the most stupid if encouraged will react to the tonic effect of a little praise.

Hints and Helps

1. Quotation: "Words are not difficult simply because of their length, the meanings which are attached to them are the stumbling blocks in thought getting. Many short words like is, was, the, it, who, if, and, but, on, in, out, etc., are infinitely more difficult than many ten or twelve letter words."—From *The Mental and Physical Life of School Children*, by PETER SANDIFORD.

2. N. L.—Willie is a nervous child and cannot sit still long. Sometimes he is sent on "a rush errand" or he is timed in three laps around the school yard. He comes back and is able to do something. He may need this tonic more than once a day, but it is time and effort well spent.

3. The following word-building exercises are excellent

(1) Add k, g, to the key word thin, k, g, ge to sin, k to chin, k, g, d to ban, k, g to sun.

(2) Form with letters the following words then add "e" to each: slop, hop, rod, slid, din, twin, trip, snip, fin, us, at, bit, tub, cub, cut, not, rob.

4. The correspondent who asked for a book containing short reproduction stories will find one in 100 *Reproduction Stories*, Beckley Cardy Co., New York. In Sunday School papers a number may be found. A collection made by yourself will be found to be more satisfactory.

Home Discipline and Education of Children

MRS. E. A. C. COWAN
Kitchener, Ontario

IN attempting to describe the collection of advanced kindergarten work executed by my boys and to show its usefulness, I would like to say that there is a tendency to attach undue importance to the articles themselves instead of realizing that the real merit lies in developing the faculties of children. This collection, which through some years has grown to considerable proportions, was not originally intended for the public. With a natural affection for children, and the leisure to attend

to their early education, I investigated for my own satisfaction, the probable cause of the alleged failure of our school system. In the home-training of my boys I found it of interest to keep a memorandum of their progress knowing that when they grew older, it would be a source of pleasure and profit to them to review their work.

I have been requested to give parents and educators the benefit of this work, but very little in this way can be accomplished in writing, as visitors have told me that to get a comprehensive idea of it, it is necessary to view it, go away, think it over and come again and again. This must necessarily be so, it must first become a study if it is later to become a work of education. Time and space will not permit me to do more than speak of its significance in general and some portions of it in particular.

The collection includes constructive work by the boys, data, and snap-shots. It begins with infantile drawings of things which interested them most and goes through the different processes of paper and card-board cutting, modelling in plasticine, wax and putty, use of water-colours, crayons, charcoal, work in wood and the different kinds of metals; also a combination of wood and metal.

As the early work was all spontaneous, the children found the material themselves and worked out their own ideas. In this way they learned to rely upon themselves and to do independent thinking; by uniting thought and action they accustomed the hands to work for the development of the mind. I allowed the boys to follow their natural inclinations, incidentally directing their operations so as to form useful instead of destructive habits. One example of this is the natural inclination of children, to pull their toys to pieces, to see what is inside and what makes them "go". My collection shows how the boys used the different parts of their toys (after their curiosity had been satisfied), in constructive work of their own; clockworks from the inside of certain toys being used to propel boats of their own manufacture, etc. This practice stimulated ingenuity, and the habit of forethought and economy led to the establishment of junk drawers in their work-bench where odds and ends were stored to be used in any enmergecy. As the boys grew older "junk" was used in making repairs about the house. Follow this practice further, when boys are grown to men, and observe the great benefit of it; one outstanding example only need here be mentioned, that of utilizing salvage, and the important part it played in winning the Great War.

The earliest drawings of the children are but a series of markings and resemble their early attempts at speech in being intelligible only to themselves. These drawing-attempts, later resemble objects that are recognizable. Then follows grouping or illustrative drawing in which the boys expressed narratives of their own invention. Later when the perceptions had been exercised and steadiness of hand had been

acquired, there is a return to object drawing, and here we see evidence of skill and the beginning of artistic draftsmanship and of inventiveness. Innate characteristics appear in the drawings of each boy as they do in all his other occupations. The value of drawing is emphasized by all the great educators, and we are told that the practice of drawing cannot begin too early. Professor Huxley in emphasizing the use of drawing says that it is the "means of training the young in attention and accuracy which are the two things in which all mankind are more deficient than in any other mental quality whatever".

The different kinds of work shown in my collection demonstrate that children progress through their self-activity after the manner in which the human race has progressed. The work is at first crude but improves as the hand becomes skilful and the ideas more clear. This is prominently seen in the boat section of the collection. The first attempt—a tiny gun-boat—is crudely but correctly shaped and has the essentials, smoke-stacks, masts and guns. These are represented by stout pins placed in proper position. You may then follow their boat-making proclivity through the stages of evolution until it culminates in a liner constructed on a crude mathematical basis. This small boat is a work of art and very realistic. It is painted and worked out complete from the small anchor to the wireless apparatus and is driven by clockwork machinery. A battleship is also worked out with equal skill and intelligence. A still more ambitious attempt is being carried out in the construction of a torpedo-destroyer driven by electricity. Here much greater skill is displayed in the manual work with a corresponding proficiency in mental development. The boy has thus come to a realization of the practical use of the "tools of knowledge" and is able to perceive in his own handi-work how to combine a knowledge of art, mathematics, language (terms). He also obtains by empirical experience some little knowledge of electricity and statics.

Paper and card-board cutting show the early beginnings of cutting objects from newspapers, and animals from plain card-board. Later, constructive work in card-board and finally geometry in relation to constructive art.

In the wood section of my collection the evolution of the cricket bat shows the cheerful perseverance of children. The first attempt to make a bat is a crude construction, and broke when used in the game. The boys immediately concentrated their attention on the weak part and made a study of the cause of the failure, then set to work to remedy the defect in the making of another bat. The next attempt was a considerable improvement, but it, too failed, to stand usage. Finally their efforts culminated in the making of a bat of tolerable workmanship which withstood the attacks of the ball. The benefits of this experience

are obvious; the boys had improved in workmanship and observation and had become better acquainted with certain kinds of wood, and their vocabulary was increased (they had learned to go to books for information). Their triumph over difficulties and the pleasure they afterwards had in playing cricket was compensation enough for the trouble they had gone through.

Some pieces of plastic work are—relief-map in plasticine, putty elephant, wax divers with complete apparatus, and a relief-horse in plasticine. This work had its beginning in dough modelling on bake-days.

In the metal section is an iron cross (made of lead). In the manufacture of this the boys first made a wooden mould, went to the sand pit and brought home a quantity of casting sand, then melted lead and poured it into the mould. The cross is engraved and decorated with a hand-wrought brass wire chain. The cross suggests the date of its manufacture but casts no reflection on the patriotism of the boys. When they showed it to me I feigned surprise and remarked that iron crosses were made by Germans; my remark was ignored and I was met with the dignified reply "This cross is to be given for a deed of valour", which shows that the significance of the symbol was what occupied their minds. The spectacular ceremony of presentation appealed to their imagination, and the making of a *lead* cross came within their scope of manufacture.

Another accomplishment was the making of baseball body protector and leg guards. These are so well made that they have stood the wear and tear of several seasons of baseball by the boys of the neighbourhood and are as sound as ever.

A piece of constructive work which is much admired by visitors is a church built of matches.

Another item is a letter written to Santa Claus by one of the boys at the age of 6 years. This shows what he had accomplished through self-education in writing, spelling, composition and drawing. The letter contains a drawing of an engine which he wished Santa Claus to bring him.

Small bottles of cold tea, also bottled of mixtures of salt, pepper and water, or any other such concoction that looked like drugs were elaborately decorated with skull and cross-bones, and labelled "poison". This was the beginning of what later developed into a laboratory where chemistry was seriously studied.

One feature of the work of my boys which impresses visitors, is the evidence of accurate observation and manual dexterity; we have but to turn to the pages of history to ascertain the importance which educators attached to the early cultivation of the powers of observation and manipulation.

The vividness which characterizes the efforts of children in their self-education is to a great extent lacking in the kindergarten work at school; this should be the starting-point in the reconstruction of our school system.

My collection explains itself and gives a clearer and more vivid idea of its significance than can be conveyed by an attempt to give a detailed written description of it.

"We must study the child, learn its nature if we would teach it."

Training Children in the Memorizing of Poetry

A. STEVENSON, B.A., B.PAED.
Normal School, London

THE memorizing of poetry by school children is too often a matter of downright drudgery, and the matter thus memorized is soon forgotten. This condition is usually due to error in the teacher's procedure. As a remedy for the evil the following method is offered. It is based on psychological principles and has been found satisfactory in the course of many years' experience.

Purpose.—To secure for the children a pleasing and profitable possession that will remain with them permanently.

Preliminary Condition.—Only such pieces should be chosen as are or can be brought, to a considerable measure, at least within the range of the pupils' understanding and *appreciation.* (If pieces prescribed by the Education Department turn out to be unsuitable for a particular grade, this will undoubtedly be changed if the matter is properly presented to the authorities).

Teacher's Preparation.—The teacher should prepare *herself* thoroughly. She should first study the piece carefully so as to master the thoughts and enter into the feelings presented therein. She should then (*a*) practise reading it orally with proper expression; (*b*) memorize it, and (*c*) recite it expressively several times, and, in the case of a song with suitable tune, (*d*) practise singing it also.

Preparation of Pupils.—It is usually advisable for the teacher to develop briefly in the children an intellectual and emotional attitude and atmosphere suitable for the understanding and appreciation of the piece. Both here and in the later development exercise, appeals should be made to the personal experience, observation, reading and imagination of the pupils.

Presentation.—(1) The teacher should recite the poem expressively to the class. (2) She should now develop as far as advisable the pupils'

understanding and appreciation of the poem. With the older pupils she should include definite reference to the words and phrases that are of special value in idea or feeling, or because of force or beauty of expression. Some simple study of versification may be taken. (3) The pupils are now to be trained to read the pieces orally with proper expression. (4) The memorizing is to be completed thoughtfully and carefully, and orally if convenient. If the pieces is short it should be memorized as a whole; if long, in sections determined by the measure of progress of the thought and feeling presented. (5) The piece is now to be recited in class with due care as to proper expression. If this cannot be secured by questioning and direction it is legitimate to resort to imitation.

Fixing.—The piece should be carefully reviewed within two or three days and occasionally thereafter.

N.B.—If the teacher wishes the children to appreciate the poem she should show appreciation herself. Also she should remember that the highest purpose of such a lesson is not attained if the majority of the members of her class have not been pleasingly affected by it.

A Spelling Bee

SEVENTEEN boys and 35 girls, each representing a county of the State, competed in the spelling contest held at the New York State Fair on September 13th. The first prize of $20 was won by Virginia Cook of New Rochelle. The words were announced by Commissioner Frank P. Graves.

The contest consisted of both oral and written tests, the first being a written test of 75 words. In this test thirty-five contestants were eliminated, only those receiving 100 per cent. being permitted to continue in the contest. This was followed by an oral contest of 350 words (less difficult than written contest) in which only one contestant was eliminated. In the written contest of 75 words which followed the oral test, eight contestants were eliminated, leaving eight still in the contest.

At this time an extra list of words, prepared by the State Education Department and not included in the printed list of 5,000 words, was resorted to, and on a test of 25 words three were eliminated. The remaining five contestants were given a test of 10 words, as a result of which one contestant was eliminated, one (the New York City candidate) misspelled one word, and three received 100 per cent. The New York City candidate was therefore determined the winner of the fourth prize.

Two contests of 10 words each were required to determine the third prize-winner, the candidates from Westchester and Erie counties still

being tied for first and second prizes. The latter two contests were again tied on two tests of 20 and 15 words, respectively, the winners being finally determined on a test of 10 words, Miss Cook missing 1 word and Master Hiles 4 words.

By the time the final test was reached, the extra list of words prepared had been exhausted and it was necessary to resort to the dictionary and to ask district superintendents and teachers present for difficult or catchy words. The following is a list of the 10 words used in the final contest: *osteopathy*, *protoplasm*, *hieroglyphics*, *sarcophagus*, *pyrites*, *gladiolus*, *cataclysm*, *phthisic*, *fuchsia*, *chauffeur*.

The county contestants were selected as a result of elimination contests held in their respective counties.

One of the interesting features of the contest is the fact that several of the contestants were of foreign birth or parentage. One candidate, who was still in the contest when the number was reduced to eight, was an Italian boy whose parents could speak but little English. This is evidence of the work our schools are doing, since this boy could receive no help whatever from home. There were several other candidates who apparently were brought up under similar circumstances.

The district superintendent from one county stated that the contestant from that county, a girl, was one of a large family; that they lived very poorly in a log hut, located far into the woods, which did not boast of even a floor. The district superintendents had provided the clothing that she wore to the fair since her people could not afford to provide for sending her to Syracuse. Until two weeks prior to the holding of the contest at Syracuse she had never seen a street car.

In speaking of the State spelling contest, Hon. Berne A. Pyrke, Commissioner of Farms and Markets, said:

In line with other movements intended to stimulate interest in rural life, such as the junior project work, the spelling bee held at the New York State Fair has developed to such an extent, and has been so successfully conducted, that it serves a real social and educational purpose.

It is to be pointed out that our young men and women desert farming, our basic industry, and the farm, for cities because of increased social and amusement advantages, as well as the hope of greater and possibly more immediate financial reward, so that it is plain that efforts to offset this trend from country to city should receive encouragement and support. The spelling bee is a step in this direction.

Another point which deserves consideration is the educational value of the contest. It is only a step from correct spelling to correct English. Children of foreign-born parents and some foreign-born contestants have competed in the spelling bees, and thus some aid is given in the solution of the great problem of assimilation, even if only to a slight extent.

The spelling bee held at the State Fair this year was the fourth, and by far the most successful from all points of view. Every year the contestants show increased proficiency in spelling, and this year it was necessary to resort to the dictionary for the

most difficult words in order to determine the state winners, showing real value and progress.

I desire to express my appreciation of the interest and co-operation of Commissioner of Education Frank P. Graves, who acted as announcer at the spelling bee.

Bulletin, University of State of New York.

Common Errors in Geography

GEO. A. CORNISH
Ontario College of Education

A DAM ACROSS THE STRAIT OF BELLE ISLE. A great deal has been written about the supposed effect on the climate of Eastern Canada and Western Europe of a dam across the Strait of Belle Isle. An article on the matter appeared first in an American magazine, then a number of letters on the subject were contributed to the daily papers. Recently the discussion has been revived. The articles in favour of the scheme are so full of geographical errors that attention should be drawn to them lest these errors find their way into the schoolroom.

The chief contentions of these articles are (1) that a dam across the Strait of Belle Isle would shut out the cold Labrador Current from the Gulf of St. Lawrence; (2) that this current would be deflected to Western Europe and make that region as cold as Labrador; (3) that the Labrador current entering the Gulf of St. Lawrence gives Eastern Canada its cold winter climate, and (4) that the Gulf Stream now bathes the shores of Western Europe giving to it its mild climate. Every one of the four contentions is absolutely false, and they will be considered in turn.

(1) A dam across Belle Isle Strait would not shut the Labrador Current out of the Gulf of St. Lawrence for the simple reason *that the Labrador Current does not flow through the Strait into the Gulf.* Mr. J. Bell Dawson, Director of Tidal Surveys, Ottawa, has investigated the currents in the Gulf of St. Lawrence and Strait of Belle Isle more fully than any other geographer. In a letter to the author some years ago he stated that the only currents in the Strait of Belle Isle were tidal currents sweeping back and forth in the Strait twice a day. The fact that icebergs are not found in the Gulf even in winter is further proof. (2) As the Labrador current does not flow through the Strait the prediction that a dam would deflect it over to Britain is that of a false prophet. The current does not enter the Strait, but flows as it would if there were already a dam there, and yet, instead of the current bending toward Europe, it does just the reverse, namely, it hugs the east coast of New-

foundland, turns toward the coast of Nova Scotia and hugs it and the coast of the New England States. If the Labrador current really did enter the Strait of Belle Isle (which it does not) and a dam were built, no geographer would ever prophesy that the current would be deflected to the left and pass toward Europe, for one of the fundamental principles of the flow of ocean currents is that all north of the equator are *deflected to the right* on account of the effect of the earth's rotation.

(3) Of course the fact that the Labrador Current does not enter the Gulf is the best evidence that it does not contribute to the severity of the winter climate. Indeed, the Labrador current has nothing to do with the severe winters even of Labrador and Newfoundland. Sea-water never gets colder than 28° Fahrenheit, since at that temperature ice begins to form. Now no body of water can possibly make a region cooler than it is itself. Therefore the coldest winter temperature any ocean current could produce is just four degrees below freezing. In Southern Ontario or Quebec we would consider the winter very mild if it was on the average not more than four degrees below freezing. Evidently neither Newfoundland nor Labrador receive their cold winters from the adjoining waters, but quite the reverse, the warmer surrounding waters, of which the Labrador Current forms a part, moderate the climate of these districts. The cause of the extreme winter in Labrador, Northern Quebec, and the interior of New Brunswick is very evident. The prevailing winds are from the north and west, and these carry over with them the intense winter cold of central Canada. Accordingly, in winter, winds from the east, even though blowing over the Labrador Current, raise the temperature, while winds from the west and north-west, which blow more frequently, bring cold weather.

(4) The old error that the Gulf Stream warms Western Europe dies hard. If Central America were depressed so that the Equatorial Current instead of being bottled up in the Gulf of Mexico flowed on into the Pacific Ocean there would be no Gulf Stream, yet the climate of Western Europe would be much as it is to-day. Why? The prevailing winds, blowing across the Atlantic from west to east, carry the temperature of the ocean to the land. As in winter the ocean is much warmer than the land it makes the winters mild, and as in summer the water is cooler than the land it makes the summers cool. The same wind that brings a moderate climate to Western Europe causes a drift of the water from west to east across the ocean, but this drift has little or nothing to do with the Gulf Stream, as even if no Gulf Stream left the Strait of Florida the West Wind Drift across the ocean would be much as it is to-day.

Professor Dickson of Oxford has made the only careful and thorough investigation of the currents of the North Atlantic Ocean and has published his results in the *Philosophical Transactions of the Royal Society.*

He shows clearly that during the winter months the Gulf Stream does not reach beyond Newfoundland. Indeed, during January and February the cold Labrador Current cuts right across the supposed path of the Gulf Stream. Now if the Gulf Stream passes across the path of the Labrador Current it must evidently pass under it. But warm water never passes *under* cold water, but, on account of its less density, *above* it. Therefore there is only one conclusion and that is that the Gulf Stream has spent its force and disappears to the south of Newfoundland and that the current flowing across the Atlantic is a drift due to the prevailing westerlies.

We might discuss further the credulity of anybody who would believe seriously in the practibility from an engineering standpoint of building a dam across a turbulent strait over ten miles wide and three or four hundred feet deep with tidal currents scouring its channel twice a day. If such an engineering feat were feasible its expense would be so great that on economic grounds alone the idea of connecting an island such as Newfoundland, which has a small population and little commerce, with a bleak uninhabited region such as Labrador is absurd.

The Round Table

1. Examination Subjects in Toronto High Schools.

The principals of the Toronto Collegiate Schools have agreed that pupils shall be allowed to write next summer on Middle School examinations in algebra, physics and British history. It was proposed at one time that they should also write on literature and composition, but it was contended by the English masters that success in these subjects depends to a very great extent on maturity, and that pupils should, in the interests of culture, have four years of English before trying the Pass Matriculation, or Normal Entrance examination. Finally it was pointed out that English is an obligatory subject in the Middle School, and that if Pass Matriculation English is not taken there, the honour work must be done.

2. *What benefits may teachers expect to derive from the Superannuation Act?*

The following benefits are mentioned in the Act:

(1) After *forty years* or more of service a teacher on retiring is entitled to receive a pension amounting to a sum arrived at by multiplying the number of years of teaching by one-sixtieth of the average salary during the last ten years. In estimating the number of years taught,

the years before the teacher began to contribute to the fund, count only as half years.

(2) A teacher retiring after having been employed for at least *thirty years* is entitled to receive a pension. Of course, it would not be as great as if he had taught forty years. Approximately, it would fall between one-third and one-half of the allowance that would be paid after forty years' employment.

(3) A teacher who has taught for at least *fifteen years*, and after that date becomes physically incapacitated from being employed shall be entitled to an annual allowance computed as in paragraph (1).

(4) Upon the death of a teacher while employed in this profession his personal representatives shall be entitled to receive a sum equal to the total amount contributed by him to the fund during his life time.

(5) An actuarial valuation of the fund is being made this year and will be made every three years hereafter and as soon as it appears that the amount of the fund will allow additional benefits to be granted these benefits shall be paid: (*a*) a teacher withdrawing from the profession after having been employed for at least *five years* shall get back all he has paid into the fund, or (*b*) should a pensioner die shortly after entering on a pension, his personal representatives will be entitled to receive the difference between what he paid into the fund and what he received as a pension.

Of course, space will not allow mention of the various safeguards and the minor provisions of the Act. Full information is given in "An Act. Respecting the Superannuation of Certain Teachers and Inspectors, With a Commentary" printed by the Education Department in 1917.

3. *A device for the history class.*

The following interesting device, which will be useful to teachers of Public School History in the Senior Fourth, is contributed by Mr. Victor H. Brotherton, Stinson Street School, Hamilton, "to aid pupils in remembering the all-important work of Alfred the Great, namely:

1. He organized his *army* for protection against Danes.
2. He translated books, etc. (*literature*).
3. He gave England a just but severe code of *laws*.
4. He built the first English *fleet*, also *forts* for defence.
5. He built churches and monasteries (*religion*).
6. He opened schools (*education*).
7. He saved his country from the *Danes*.

After having developed or read the account of the above points, in the lesson, the teacher writes or prints the word Alfred on the board, and by giving the class a start asks them to suggest what each letter in his name stands for in his work. Write as follows:

Army
Laws and Literature
Fleet and Forts
Religion
Education
Danes.

It will be found that each letter suggests one important work, while His name covers all. I find the pupils are quick in suggesting the above, and they never fail to remember all of Alfred's great work".

4. *I cannot teach the chords in music as I have not a good voice. If I practice a piece of music I can sing it not too badly and the only way I could teach would be by imitation. Do you think I had better go ahead and teach it that way? I am afraid that it will be the means of spoiling the pupils voices. Please give me your opinion.*

Do not fail to teach music whatever be your obstacles or limitations as a teacher of music. You cannot spoil their voices by singing out of time or out of tune so long as you do not allow them to shout. Solicit the aid of your best pupils in music; they will be able to carry the song through in proper tune and time for you. There are worse methods than the method of imitation.

5. *Can you suggest a book for teachers on "Seat Work for Rural Schools?"* Can any subscriber tell us of one? A collection of some hundreds of problems in the several courses of study for rural schools is given in an appendix to Miss Carney's "Country Life and the Country School".

6. *Would you kindly recommend a book containing the Irish Folk Dance?* The Folk Dance Book by C. Ward Crampton, published by The A. S. Barnes Company, New York, 1912, contains, on page 26, the "Irish Lilt" which is probably the folk dance referred to.

Current Events

A New Country on the Map

This time it is in Central America. Last month the governments of Honduras, Gautemala and Salvador went out of existence. Their place will be taken by the new Republic under the name of the Central American Federation. Tegucigalpa is the capital of the new republic which is about as large as New Zealand and has about half the population of Canada.

A New Cabinet at Ottawa

On September 21st the Right Hon. Arthur Meighen, the Prime Minister of Canada, made known the names of the new members of his Cabinet. The Cabinet, with the changes announced, consists of the following members:

Prime Minister and Minister of External Affairs—Right Hon. Arthur Meighen (no change).
Railways and Canals—Hon. J. A. Stewart, Lanark (new).
Trade and Commerce—H. H. Stevens, Vancouver (new).
Justice—R. B. Bennett, Calgary (new).
Postmaster-General—L. deG. Belley, K.C., Quebec (new).
Secretary of State—Rodolphe Monty, Montreal (new).
Health, Immigration and Colonization—Dr. J. W. Edwards, Frontenac (new).
Soldiers' Civil Re-establishment—R. J. Manion, Fort William (new).
Customs and Excise—J. B. M. Baxter, St. John, N.B. (new).
Public Works—Hon. F. B. McCurdy (no change).
Finance—Sir Henry Drayton (no change).
President of the Privy Council—Dr. L. P. Normand, Three Rivers (new).
Agriculture—Hon. S. F. Tolmie, Victoria, B.C. (no change).
Labour—Hon. G. D. Robertson (no change).
Marine and Naval—Hon. C. C. Ballantyne (no change).
Interior—Sir James Lougheed (no change).
Militia and Defense—Hon. Hugh Guthrie (no change).
Solicitor-General—Hon. Guillaume And é Fauteux.
Without portfolio—E. K. Spinney (no change); Sir Edward Kemp (no change); James Wilson, Saskatoon (new), and Edmund Bristol, K.C., Toronto (new).

Since then Parliament has been dissolved. Elections for the new Parliament of Canada will be held on December 6th.

Climbing Mount Everest

Every student of geography, indeed, everyone who has anything of the spirit of adventure will watch with interest the progress of the British expedition now attempting to scale the summit of the highest mountain in the world. The difficulties appear to be almost insurmountable. According to Sir Martin Conway, M.P., a famous mountaineer with experience in the Himalayas, it is doubtful if the attempt can succeed. As quoted in an article in the Manchester Guardian he said: "In the first place, we are in complete ignorance as to the nature of the mountain. It is only known by distant views of the upper part. Nobody before the present expedition has been within forty miles of the mountain, and only one person has been as near as that. The Himalayas are much younger than the Alps and the Welsh hills, and differ from the former in being much more precipitous and much less rounded-off by the action of the forces of denudation inasmuch as they are in an earlier stage of disintegration. The result is that it is the exception to find a peak that is at all climbable. Many of the big mountains of the range are cut off all round by peaks below, and even if this is not so in the case of Everest and if it be proved that the mountain may be scaled from base to summit, the mere length of the ascent presents problems too complicated in character for any expedition to anticipate". Mount Everest is said to be over 29,000 feet high. The greatest height to which anyone

has yet climbed is 24,500 feet. At this height the air was so rarified that though the passage was not rough the party could move only 150 feet an hour. The difficulties of providing food and shelter at such heights and under such conditions are obvious.

The Disarmament Conference

In view of the approaching conference at Washington on November 11th, it is interesting to note the way in which the chief world powers are competing in military and naval preparations for possible war.

PRESENT ARMIES OF FIVE GREAT POWERS

France	800,000 men	Italy	300,000 men
Japan	600,000 men	United States	150,000 men
Great Britain	300,000 men		

THE NAVIES OF THREE GREAT POWERS

	Present tonnage.	Under construction.	Tonnage after present building programmes are completed.
Great Britain	1,588,442	328,890	1,665,332
United States	779,173	842,109	1,621,282
Japan	340,596	328,460	669,056

Some of these figures are very striking. The United States is building, or planning to build, so many ships that by 1924 she will have almost as large a fleet as Great Britain. While Japan's programme is about the same as that of Great Britain, it is really very much larger in proportion to the size of her present fleet. The figures in the last column show conclusively that despite all the lessons of the recent war the Great Powers are rapidly building up war machines that will not only menace the peace of the world, but lay a crushing burden on the people. Surely the hope of the world for peace does lie largely in the deliberations to be held in Washington next month.

A High School Time-table

THROUGH the kindness of Principal Kirkconnell of Lindsay, THE SCHOOL is able to publish the following time-table of a Collegiate Institute with eleven teachers. Principal Kirkconnell states that, "With a staff of eleven, we find our class-rooms thronged by 375 students. As a consequence of this our teaching force is inadequate, and the time-table far from ideal, but perhaps for this very reason a comparison of time-tables may prove helpful.

"You will observe that most subjects in our school are taken for a period each day, and that the three short periods each day are devoted largely to physical culture and to study purposes".

A HIGH SCHOOL TIME TABLE

	9-9.40	9.40-10.20	10.20-11	11-11.30	11.30-12	1.30-2.10	2.10-2.50	2.50-3.30	3.30-4
V	Math.	Math.	Latin	Physics	.....	English	French	History	Phys. Cult.
IV Sr.	Sc.	Sc.	History	Geom.	Alg.	Latin	Eng.	French	Phys. Cult.
IV Jr.	Latin	Lit.	French	Comp. (3)	Greek	History	Alg.	Geom.	Phys. Cult.
III	Lit.	Latin	Alg.	P. Cult.	Sc.	French	Hist. (Br.)	Sc.	Comp. (3)
II (Mat.)	History	French	Physiog.	P. Cult.	Comp. (3)	Geom.	Latin	Lit.	Alg.
II (Teach.)	Arith.	Comp. (3)	Alg.	Lit.	Gram.	Bot.	Physiog.	Zool.	Phys. Cult.
I (*c*) (Mat.)	French	Alg.	Lit.	Latin	Phys. Cult.	Physiog.	Arith.	History	Comp. (3)
I (*b*)	History	Bot.	Geog.	Alg.	Phys. Cult.	Art	Lit.	Latin	French
I (*a*)	Bot.	Lit.	Art	French	Phys. Cult.	Alg.	Geog.	History	Latin

NOTE—This does not include the time-table of the special commercial class.

It would be interesting to know how much time is given during school hours to the teachers of composition, for the reading of essays. I have tried to arrange so that each teacher of composition shall have one period

every day for each class in composition for which he is responsible, *e.g.*, Mr. J—— has two classes, and ten periods per week work exercises, etc." Will not some other High School principals let us have their experience on this point?

Home-Made Apparatus for the Small Science Laboratory

MARY C. TUCKER
Upper Canada College

IN order to get enough apparatus for individual work, a teacher in a High or Continuation school can often add much to the enthusiasm and understanding of a class by having the pupils make their own apparatus. The writer once had a tin can and pickle bottle shower for the science laboratory. In asking for tin cans the intention was to get one-pound baking-powder cans, but cans of all descriptions and sizes were brought and the sight of the many sizes suggested to teacher and pupils many other uses for them. The collection included baking-powder cans of one, one-half and one-quarter pound sizes, crisco tins of one, three and nine pound sizes; lard pails of various sizes, one pound and two pound coffee cans, honey pails of five and ten pound sizes, and custard tins of one-half and one pound sizes. It was also the custom in this school to keep all the pasteboard backs of examination pads.

Many were the uses to which these cans were put. A tin with some wadding, cloth or paper in the bottom made a good test-tube holder. A one-pound baking powder can made as good a water bath as a beaker. In finding the specific gravity of solids the wide-mouthed cans made possible the use of very large stones, etc. Starch paste for chemistry experiments was made in a can and when put away with a lid on could be used for several days. Supplies such as non-deliquescent crystals, metals, etc., were stored in lard pails, coffee cans, etc., with lids, and kept clean until needed to replenish the reagent bottles. Cans were used to keep separate the corks of different sizes. All matches to be used in the laboratory were stored in cans or pails with lids to keep them dry and to keep out mice. Small cans of matches were kept on the shelves with the reagent bottles. The waste from each table was placed in a large can. Chemicals such as chlorine water, silver nitrate, etc., which spoil in the light were kept in labelled cans. Cans were used to enclose the bottles of experiments where one bottle was exposed to the light and the other kept in darkness.

Sifters for iron filings and sand were made by punching holes with

a small fine-pointed nail in the lid of a four ounce baking-powder can. Then a piece of stout paper was glued inside the lid over the holes. The lid was next held up to the light and a fine hole made by a pin where each light spot showed. This made a much smaller hole and a much finer sifter than could be made by using the nail.

All candle ends, wax scrapings, etc., were collected in covered cans. These when full were boiled in water and thus freed from dirt. The wax was allowed to cool and dry. It was then melted and poured into the lids of large coffee cans. Here it cooled, then was gently heated a moment and turned out on a flat surface to solidify. This cake made a splendid insulating cake for experiments in static elecity. A clean baking-powder can set on this cake can be used to show where the charge on a cylindrical metal condenser is.

Can lids were used as candle sticks in experiments in light thus keeping tables free from wax and making it easier to collect the wax. Several ply of candle wick twisted together and fastened around by a thread with a weight hung on the end and lowered into tall metal porous plaster tubes made the wick for a larger candle. Melted wax poured slowly into the plaster tube, hardened and formed the wax for the new candle. When hard, the plaster tube was immersed in a tin of hot water and the candle pulled out. The pupils enjoyed using these in experiments in light to compare with the candle power of the ordinary laboratory candle.

A baking-powder can inverted with a hole punched in the bottom made a good funnel holder. Small baking-powder cans with a hole punched in the bottom and another in the lid with a twig thrust through made a working windlass. The lids of cans were used to find diameters and circumferences in elementary physics. Can lids also made useful pin trays in experiments in light. Can lids partly filled with sand made efficient sand baths.

Labels were made to stick best by using white varnish to fasten them to the can and to cover the face of the label after the name had been written. Two similar cans were used to show radiation from shining surfaces and from blackened surfaces. Two one-pound baking-powder cans were used. One was left bright and shining the other was blackened by a candle. Boiling water was poured in each. The lids were adjusted and a thermometer thrust in each through a hole in the lid. Temperatures were read every ten minutes.

Calorimeters were made by placing in the bottom of a lard pail several discs of pasteboard cut from the backs of examination pads. On these discs a one pound baking-powder can was placed. In the can more cardboard discs were placed. A one-quarter pound baking-powder can formed the container for the liquid being used in the experiment. Several

discs of cardboard were cut with a hole large enough for a thermometer in the centre to go on top of the apparatus and lastly the lard pail lid was provided with a hole in the centre of it for the thermometer.

In making fireless cookers two-pound coffee cans or lard pails were used as the outside vessel and were lined with excelsior, flannel, cotton wool, paper or sawdust. The inside container was made of a one-pound baking-powder can. Results were compared to see the efficiency of the different insulators. Parallel experiments were set up using the same kinds of cans but no heat-insulating materials were used. The temperatures of the water which was put in boiling was taken after school and the next morning. In this way the pupils understood the use of an insulator.

A simple refrigerator was made by using a large lard can lined with excelsior with a hole in the bottom of the can. A one-pound baking-powder can with a hole in the bottom and partly filled with ice was placed in the lard can and a small baking-powder can full of water was placed on the ice and covered with a lid and excelsior. Temperatures were taken several times and the length of time the ice lasted was noted. The water did not drain away very well and this experiment was not as successful as the others. Probably a reader could suggest improvements in this.

In the experiment on connection currents in gases, it was found that if the pasteboard covers of two dry cells had the bottoms taken off and were joined together by rolling a sheet of foolscap about them, fastening it with glue, they formed an excellent chimney.

The writer is sure that if each of the science teachers of this province gave his own pet scheme for making apparatus, the pupils interest in science could be greatly increased.

Problems in Mathematics

PROFESSOR J. T. CRAWFORD
Ontario College of Education, Toronto

10. The middle points of the three diagonals of a complete quadrilateral are collinear.

Let $ABCD$ be the quadrilateral in which AB and DC meet at L, and AD and BC meet at M. In the triangle CDM let F be the middle point of DM, G of MC and H of DC. Then FG bisects the diagonal ML

at R, FH bisects DB at Q and GH bisects AC at P. It is required to prove that P, Q, R are collinear. Since ABL is a transversal cutting the sides of the triangle DCM, therefore $DA.MB.CL=AM.BC.LD$. But $HP=\frac{1}{2}DA$, $FG=\frac{1}{2}MB$, etc., therefore $HP.FQ.GR=PG.QH.RF$. Therefore, by the converse of Ceva's theorem, the points P, Q, R lying on the sides of the triangle FGH are collinear.

11. Express $\dfrac{\sin x+3\cos x}{3\sin^2 x+2\sin x\cos x+\cos^2 x}$ as a function of $\tan\dfrac{x}{2}$.

Let $\tan\dfrac{x}{2}=a$, then it is not difficult to show that $\sin x=2a/1+a^2$ and $\cos x=1-a^2/1+a^2$. On substituting these values of $\sin x$ and $\cos x$ the given fraction, when simplified, becomes

$$\frac{(1+a^2)\ (3+2a-3a^2)}{1+4a+10a^2-4a^3+a^4}.$$

12. If $x+y+z=xyz$, show that

$$\frac{2x}{1-x^2}+\frac{2y}{1-y^2}+\frac{2z}{1-z^2}=\frac{8xyz}{(1-x^2)\ (1-y^2)\ (1-z^2)}.$$

This problem may be solved by finding, from the given condition, the value of x in terms of y and z. On substituting this value of x the required relation becomes an identity in y and z.

An interesting trigonometrical solution will be found in Hall and Knight's trigonometry on page 307.

13. Eliminate θ from the equations

$$(a+b)\tan(\theta-\phi)=(a-b)\tan(\theta+\phi),$$
$$a\cos 2\phi+b\cos 2\theta=c.$$

When (1) is written in terms of sines and cosines it becomes $\dfrac{a+b}{a-b}=\dfrac{\sin(\theta+\phi)\cos(\theta-\phi)}{\cos(\theta+\phi)\sin(\theta-\phi)}$. On adding and subtracting the numerators and denominators on each side we get $b\sin 2\theta=a\sin 2\phi$. From (2), $b\cos 2\theta=c-a\cos 2\phi$. Therefore $(a\sin 2\phi)^2+(c-a\cos 2\phi)^2=b^2$. This is the required result. When simplified it becomes $a^2-b^2+c^2=2ac\cos 2\phi$.

14. P is the point of intersection of AL, BM, CN, the perpendiculars from the vertices of a triangle ABC to the opposite sides. If x, y, z are the diameters of the circles MPN, NPL, LPM, show that

$$\frac{yz}{bc}+\frac{zx}{ca}+\frac{xy}{ab}=1.$$

The quadrilateral $AMPN$ in concyclic and therefore the diameter of the circumscribing circle of the triangle MPN is AP or x. Since $AM=c\cos A$ and $AM=x\cos PAM=x\sin C$, therefore $x=a\cot A$. Similarly $y=b\cot B$ and $z=c\cot C$. On substituting these values of x, y, z in the

required relation it remains to prove that cot B cot $C+$ cot C cot $A+$ cot A cot $B=1$. On multiplying by tan A tan B tan C this reduces to the well-known identity tan $A+$tan $B+$tan $C=$tan A tan B tan C.

15. If a, b, c, d are the lengths of the sides of a quadrilateral inscribable in a circle the area of the quadrilateral is

$$\sqrt{(s-a)\ (s-b)\ (s-c)\ (s-d)}$$

where $2s=a+b+c+d$.

The demonstration of this theorem will be found in Hall and Knight's trigonometry on page 221.

From the Board's Point of View

An Ontario Rural School, Kirkfield, Victoria County
There is a playground of three acres.

Co-education

ALICE WILLSON

THE casual observer is likely to take it for granted that the principle of co-education is pretty generally accepted in America throughout the whole system from kindergarten to university. The thoughtful investigator finds that this is far from being the case.

It is a significant fact that, with the exception of vocation schools and kindergartens, no voluntary schools are co-educational. In vocation schools it depends, of course, on the vocation. Business colleges, for instance, are co-educational because office work is popular with both

sexes. In schools for general educational work, however, there is no co-education if those who really pay the piper directly, have a chance to name the tune.

Moreover, even in the so-called co-educational schools and colleges nothing is co-educational except class-room work and even that tends to divide along sex lines as the classes grow large. The men and women or the boys and girls occupy seats in the same room, listen to the same lectures or lessons and perform the same experiments, but there the co-education ceases. They go from the class-rooms (by separate doors often) to take part in the general life of one or other of two separate school communities.

We are often told that the most important part of university education is what the students get by intercourse with one another and from the general life of the place. I do not think this is true but if it be even approximately true then very few colleges are co-educational, for this general life is invariably two-fold. There are separate residences of course, separate "student unions", separate athletic associations and literary societies, Greek letter "fraternities" and "sororities", libraries and reading-rooms have separate quarters for men and women, and even the Christian Associations are divided into the Y.M's. and the Y.W's. These arrangements are regarded by all concerned as perfectly natural and desirable. Efforts to create a common social life for the two sections usually take the form of enthusiasm for dances and are frowned down by the authorities unless kept within very narrow limits. Both professors and the more earnest and sensible type of students recognize that it interferes with the work which it is a university's chief business to do.

The general life of the university thus is two-fold. There are those who would go a step farther and separate men and women in the class-rooms also. Some universities have done so, but against this university women as a rule have resolutely set their faces and very rightly. Whatever nonsense may be talked about the general life of the place and the influence of one developing young mind upon another, the fact is that in any really good foundation for higher education the most important influence is the teaching work of the faculty. The best men of a university staff, those whose personality, work and reputation are the university's greatest asset cannot be asked to repeat their lectures. If the women's lectures were separate from those of the men it would mean that the women would have work with junior members of the staff only.

In secondary schools the same conditions obtain outside of the class-room. If the school is co-educational, all its activities, except class-room work, are organized in duplicate or (as happens often enough) they are not organized at all. However, there is this important difference. The objection to separate class-room work, so strong in the case of the

university, does not apply. Indeed there are fairly good arguments even for a different syllabus. The only argument against complete separation is a financial one. The objection on the score of expense is quite reasonable in a town where there is only one secondary school but its reasonableness varies inversely with the increasing number of schools.

In English and French secondary schools one is impressed by the economy of energy in organization. Anything which is organized at all, is complete and effectual. In the average Ontario High School on the other hand the staff devotes a great deal of time, thought and energy to preventing the interest which boys and girls take in one another from interfering with their chances of success in their lessons and examinations, and not always with complete success. They devote a great deal of time, thought and energy also to the creating of what they call school spirit. They often find themselves urging on and holding back almost at the same moment. Nothing develops school spirit so well as a common life outside the class-room—school entertainments, school games, charitable work which is the result of general effort; but it is not often that the whole school can be really urged as a unit into anything of this sort. There are two units. As far as most activities are concerned there are two schools. Most sensible principals recognize this fact quite unreservedly and organize all school activities in duplicate but as human energy is limited it often happens that one side is neglected and that side is very likely to be the feminine one.

In one department particularly the advantages of the English system are obvious—that of physical training. In the co-educational school there is usually only one gymnasium and the girls may use it when the boys don't want it.

In Ontario Collegiate Institutes and High Schools, boy's sports are often as completely a part of the school organization as are the algebra classes. In Toronto during the Rugby season, secondary school lessons are compressed once a week into the morning session and boys play Rugby in the afternoon—while girls look on or go home. Girls' games are encouraged—especially basket-ball—but on the whole, it is for the girls a case of picking up the crumbs which fall from the rich man's table. Their gymnastics and games cannot compare with what is done in English schools nor with our own larger type of private schools for girls. In this department certainly, the girls would be the gainers if they were in their own schools.

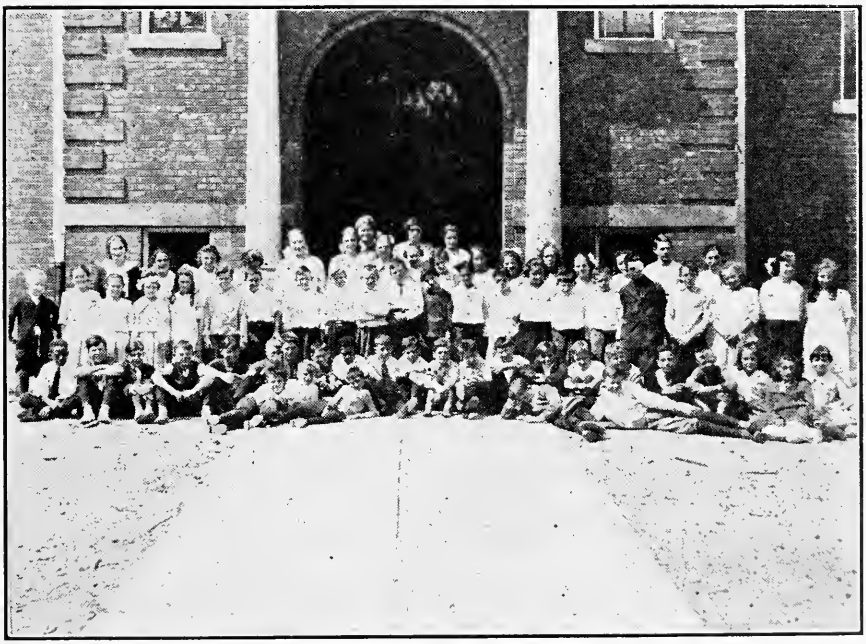
The small town High School sometimes approaches what might be called real co-education because, the community being small, the High School pupils are actually the "younger set" in that community. This is not, of course, the result of a set plan but, apart from occasional experiments in co-educational residential schools, the small High Schools

are the only co-educational ones. There are really two varieties of High Schools in Ontario, those which are organized as double schools in everything but class-room work and those in which nothing but class-room work is organized at all. Some principals frankly claim that the latter is the better plan and perhaps it is. Few are able to carry out the former plan completely.

One cannot help thinking that the experiment of having "High Schools for Boys" and "High Schools for Girls" would be worth making, especially as Toronto's High School for Boys (the U.T.S.) has proved such a success.

Another plan is that of some of the "Higher Grade" schools in England where schools for boys and girls have separate buildings with separate staff and principals but built close enough together to use the same science apparatus and laboratories. This is essentially the same plan as our Provincial Model School.

In view of the fact that as the Adolescent School Attendance Act comes into force new types of schools will necessarily arise and also in view of the fact that Toronto has now nine High Schools besides the Technical and the Commercial High School, under the Board of Educa-



VACATION CLASSES, WINDSOR PUBLIC SCHOOLS, ONTARIO
Teachers standing in the doorway—Miss Bertha Draper (right); Miss Jean Govenlock, Supervisor (centre); Miss Ethel Smith (left).

tion, all filled to overflowing—it is perhaps a good time to suggest experiments in schools which do not pretend to be co-educational.

Windsor Vacation Classes

Ninety-eight Public School pupils, who were unable, because of sickness and other retarding influences, to attain promotions in June, attended Dougall Avenue School, Windsor, from July 5th to August 13th, and were given instruction in the fundamental branches. As a result, 82 pupils were promoted, 13 pupils were helped, and 3 failed.

The teachers in charge were Miss Jean Govenlock, Supervisor; Miss Bertha Draper and Miss Ethel Smith.

The classes were popular, as over 200 pupils were anxious to attend. The hours were from eight to one, with half-hour lunch periods, and the attendance regular.

Next year, at least six classes will be established.

Canadian Teachers' Federation

HARRY CHARLESWORTH
President, Canadian Teachers' Federation

THE annual meeting of the Canadian Teachers' Federation was held in the Board of Education Administrative Building, Toronto, on August 6th, 8th and 9th, 1921. The following official delegates were present: Mr. Harry Charlesworth, Miss H. R. Anderson and Mr. J. G. Lister from British Columbia; Mr. H. C. Newlands, Mr. T. E. A. Stanley and Mr. J. W. Barnett from Alberta; Miss J. V. Miners and Mr. J. R. Brownlee from Saskatchewan; Mr. H. W. Huntley, Mr. E. K. Marshall and Mr. C. W. Laidlaw from Manitoba; Lieut.-Col. Wm. Michell, Mr. J. Shortt and Miss Helen S. Arbuthnot from Ontario.

Visiting delegates were also present from the Eastern and Maritime Provinces, and were granted full rights of discussion on all matters. These delegates will report to their respective Associations, and the necessary steps will then be taken to include them officially in the Canadian Teachers' Federation. The delegates were Dean Sinclair Laird and Mr. W. Allen-Walsh, representing the Protestant Teachers of Quebec; Mr. L. W. Shaw and Mr. R. H. Rogers, from Prince Edward Island; Miss J. McLatchy from New Brunswick, while at the last session Miss Campbell was present as a representative from Nova Scotia. It will thus be seen that the Canadian Teachers' Federation has quickly attained its object of a complete union of all Provincial Teachers' Organizations.

President Harry Charlesworth of Victoria, B.C., presided at the meetings. The delegates were welcomed by Mr. J. McClelland, Chairman of the Toronto Board of Education, and by Mrs. Groves, Chairman of the School Management Committee, both of whom gave excellent addresses. The President, in responding, expressed on behalf of the executive their sincere appreciation of the warm welcome extended and also of the kindness of the Board in allowing the full use of their magnificent Board Room for all sessions of the Federation.

Mr. Charlesworth gave a brief review of the work of the Federation during the past year, emphasizing the fact that in the main things which it was hoped to accomplish they had been more than successful. The chief aims had been to build up in each Province a strong Association, and to bring about, through the Canadian Federation, close co-operation, and as much uniformity as was possible in the various activities of the Provincial Organizations. He pointed to the fact that due to serious trouble in several provinces, the Federation had been put to severe tests, but that it had successfully emerged from all such trials, and had proved of inestimable benefit to the teachers concerned in these troubles. Through the efforts of the Canadian Teachers' Federation, he said, a strong professional consciousness had been built up among Canadian Teachers, so that now teachers would not think of seeking professional advancement in any locality if such advancement would work injury upon other members of the teaching profession. Teachers now seeking new positions considered it a breach of professional etiquette to take up any place rendered vacant by unfair and unjust treatment of the last occupant of such position. This was simply a statement of fact which had been demonstrated during the year, and was the more pleasing because such a desirable condition had arisen solely from the spirit of justice, and unselfishness which characterized all true teachers. Mr. Charlesworth stated that the Canadian Teachers' Federation was the voice of the active teaching profession of Canada, absolutely free and uncontrolled by any influence other than the teachers themselves. It was essentially democratic—the teachers themselves having complete control of all matters, the Executive simply carrying out the wishes of the members as expressed through their officially elected representatives. Its aim was co-operation, and it desired to work in harmony with all persons having authority in educational matters. It was to be remembered, however, that such a strong organization representing the teachers of the Dominion was by its very nature in a position to speak authoritatively concerning educational questions, more especially as these questions were often submitted to referendum, and therefore it was not unreasonable to expect that authorities would give the earnest attention which was due to matters brought forward by the Federation. The

main object of the Federation was to make a practical truth of the oft expressed theories (with which everyone agrees as long as they are merely theories) namely, that the child is the nation's greatest asset, that teachers are the great nation builders, and that the teaching profession is the noblest of professions. To translate these theories to facts, to arouse such public interest in education that it shall be given its rightful place, to attract to, and retain in, the teaching profession the finest men and women of our land; to give every child the greatest possible opportunity; these things will require constant work and will entail many disappointments, but surely they are great enough to secure the practical co-operation of all those who really and truly believe that such things are vitally necessary, whether they be teachers, administrators, trustees, or interested citizens.

Provincial reports were taken up, and every Province showed that much successful work had been accomplished. Increased membership, increased salaries, and constructive work in connection with professional matters, were common features of all reports. Accounts were given also of some of the more prominent disputes, which had led to strikes. In this connection, it is worthy of note that in not one single instance had teachers gone on strike without first offering to submit the whole matter in dispute to arbitration, but such a recognized and desirable method had been refused by the School Boards concerned. It was plainly evident in all reports that teachers are very much averse to striking, and would welcome the day when such things were unnecessary, but in the cases under review there was no alternative if the teachers were to retain the rights and privileges which are essential to the welfare of the teaching profession. In every case, the issue was not primarily one of money, but one of vital principles.

Following these reports the convention settled down to the main work, that of forming a Constitution which would be acceptable to all provincial organizations, and after much debate this was finally accomplished. The Constitution is to be printed and copies forwarded to all Provincial bodies. The chief clauses as adopted were:

(*a*) *Concerning Membership:* "An organization shall become, or be affiliated with the Canadian Teachers' Federation only so long as its active membership is restricted to those actively engaged in teaching; always provided, however, that every provincial organization shall have the right to admit associate or honorary members."

This clause was approved unanimously, and makes it possible for all provincial organizations to become affiliated.

(*b*) *Referendum:* A clause gives power to the Executive to take a referendum on any matter, and to act upon such referendum.

(*c*) *Voting:* The Constitution asserts that in all matters of policy and

legislation, there shall be a unanimous vote before action can be taken, but in all other matters a majority vote shall prevail.

(*d*) *Amendments:* "The Constitution and By-laws of the Canadian Teachers' Federation shall only be altered, amended or added to by a unanimous resolution of the Federation, submitted at the Annual Meeting."

(*e*) *Finances:* After a great deal of discussion, the following resolution was unanimously carried: "Recommended that the affiliated federations be assessed in a sum of fifty cents or one dollar per member to form an expense and reserve fund."

Amongst the chief resolutions passed by the meeting were:

(*a*) That a message of welcome be sent to Governor-General Lord Byng. The President was authorized to send the following: "The teachers of Canada, represented by delegates from every Province of the Dominion, assembled in Toronto as the Canadian Teachers' Federation, desire to present to your Excellency their humble and loyal duty, and to express through you their unswerving allegiance to His Majesty the King and further to welcome you personally to this Dominion."

(Signed) HARRY CHARLESWORTH,
President, Canadian Teachers' Federation.

Later a reply was received as follows:

"Many thanks for your kind and loyal message which I greatly appreciate."

(Signed) BYNG.

(*b*) *Immigration:* "That in view of the fact that there is now a large foreign element in Canada, and in view of the necessity of thoroughly Canadianizing this element, the Canadian Federation of Teachers, upon whom the work chiefly devolves, respectfully urge the Dominion Government to place further restrictive measures upon undesirable immigration into Canada, and that a copy of this resolution be forwarded to the proper authorities."

"That the Dominion Government be asked to give substantial grants to the several provincial governments to assist them in taking care of non-English speaking Canadians."

(*c*) *Greater Professional Training:* "That in the interest of the children of the Dominion of Canada, it is desirable that a minimum requirement of four years' High School training and two years' professional training be demanded of all candidates for permanent professional licenses, provided that all outstanding permanent professional certificates be continued in full force and effect."

(*d*) *Dominion Bureau of Education:* "That the Executive of the Canadian Teachers' Federation be requested to urge upon the National Council of Education the immediate necessity of establishing a Dominion

Bureau of Education, in accordance with the following resolution passed by the Winnipeg Conference in 1919:

"That for the purposes of educational investigation, and as a clearing house for educational data, a National Bureau be established under the direction of the National Council of Education and that such bureau be maintained by voluntary support and such financial assistance as may be given by Provincial and Dominion Governments without any restrictions as to policy;

"Be it further resolved that a delegation from the Canadian Teachers' Federation in conjunction with the representatives of the National Council of Education, wait upon the Dominion Government and ask for financial assistance in the establishment and maintenance of such a bureau;

"And that each provincial teachers' organization be asked to appoint a delegation to wait upon their respective Provincial Governments to ask that financial assistance be granted towards the establishment and maintenance of such a Bureau."

(*e*) *Greater equality of Teachers' qualifications:* "That the Executive of the Canadian Teachers' Federation be requested to take such steps as may be necessary to secure greater equality of teachers' qualifications throughout the jurisdiction of all affiliated organizations comprising the Canadian Teachers' Federation."

(*f*) *Canadian Teachers' Journal:* "That a Committee be appointed to consider the establishment of a Canadian Teachers' Journal, to become the official organ of the teaching profession of Canada, the staff of such magazine to consist of leading educational experts, the aim being to make it take the same important place in the teaching profession as the *Law Journal*, *Medical Journal* and *Engineering Journal* take in the profession with which they deal. This magazine would be largely professional, each provincial organization still retaining some form of magazine or bulletin for propaganda purposes."

(*g*) *Future Work:* "Resolved that the following subjects be made the subject of a recommendation to the provincial organizations, with instructions to give provincial information on such subjects, and to recommend to the Canadian Teachers' Federation suggested action. Further that upon receipt of such answers to the references, the Canadian Teachers' Federation shall make a summary and forward such to the various provincial federations for consideration at the conference next year."

Section 11. Consideration of uniform plans and policies in all Provinces for dealing with such matters as:

1. Tenure of office.
2. Superannuation.

3. Disputes between authorities and teachers:
   (*a*) Boards of arbitration.
   (*b*) Boards of Reference.
   (*c*) Investigations in case of dismissals.
4. Raising of status and salaries of teachers.
5. Teacher-representation on committees dealing with the internal management of schools.
6. Advisory Boards.
7. Text-Books.
8. Courses of Study.
9. Compulsory age of attendance.
10. Medical Inspection of schools.

Section 15. Consideration of methods for a definite and continual campaign to enlighten the general public as to the importance of education to the nation, and the vital necessity of public recognition and appreciation of the high and responsible nature of the work teachers are called upon to undertake.

The following suggestions to be discussed:

(*a*) Public meetings and meetings of organizations to be addressed by prominent men and women on the subject.

(*b*) Magazine and newspaper articles by writers of outstanding importance.

(*c*) Expressions on value of education, etc., from prominent Canadian men and women of all walks of life.

(*d*) The organization of a "National Educational Week" commencing with an "Educational Sunday" in all churches when the public could learn of the value of schools, by visits, addresses, demonstrations, etc. The co-operation in this of Dominion and Provincial Governments, councils, school boards, and all other public and semi-public bodies.

(*h*) *Resolutions of thanks:* That a vote of thanks be tendered the Board of Education of Toronto for their generous, hospitable treatment. That the thanks of the meeting be tendered to Mr. C. G. Fraser, for his courteous attention and assistance as Chairman of the Local Committee on Arrangements. That the thanks of the meeting be extended to the Toronto Teachers' Council, the Women Teachers' Association and all organizations which had contributed to the entertainment and comfort of the members and visitors. That a vote of thanks be given to the representatives of the press.

(*i*) *Election of Officers:* Mr. Harry Charlesworth was re-elected President; Mr. H. W. Huntly was re-elected Vice-President; Miss H. R. Anderson was elected Secretary-Treasurer.

(*j*) *Place of Meeting:* The meeting next year will be held in Saskatoon.

At the close of the proceedings, the members and visitors joined in singing The National Anthem.

Recent Magazine Articles and Reports on Education

For further information address: The Librarian, The Ontario College of Education, Toronto.

The Classics for America, by Calvin Coolidge, Vice-President of the United States. *School Life, September, 1921.*

Organization of the U.S. Bureau of Education, by John J. Tigert, Commissioner of Education, Washington, D.C.—*School Life, September, 1921.*

A History of the Schools in Victoria County, by Watson Kirkconnell, M.A.—*The Watchman-Warder, Lindsay, Ontario, July 28th, 1921.*

The Socialized Recitation, by W. H. Martin, gives an example of a socialized project in geography.—*The Journal of Education, Boston September 1st, 1921.*

Causes of Delinquency, by Olive M. Jones, N.Y., contains "the result of a special study of the best known methods of dealing with delinquent boys in a great city school in the year 1920-21".—*The Journal of Education, Boston, September 1st, 1921.*

The Project Method. (1) What is the Project Method, by Minetta L. Warren, critic teacher Mann Practice School, Detroit, Michigan.—*The Journal of Education, Boston, September 1st, 1921.*

Music for the Average, Boy by F. M. Sherra, M.A., Mus. M. Cantab., Director of Music, Malvern College, England.—*The Journal of Education and School World, London, England, August 1st, 1921.*

Horace Mann. Wm. H. Burnham, Clark University.—*School and Society, September 3rd, 1921.*

Rural Schools and Teachers' Houses in England. John Y. Dunlop, Greenfield, Tollcross, Glasgow, Scotland, gives plans and illustrations. —*The American School Board Journal, August, 1921.*

An Outline Study of Macaulay's "Lord Clive". Maud Elora Kingsley. A study in prose literature.—*The Journal of Education, Boston, September, 1921.*

The Mission of Art Education in the Public Schools. C. A. Prosser. "It is a strange commentary upon the situation in art education in this country to read about the frantic efforts of organizations of all kinds, including stores, to educate the buying public into simple standards of

taste in the selection and use of materials and colours. There lies a service that should be performed by the art teachers of the public schools long before boys and girls have left school to go to work. The task is a monumental one, but the mission most sacred".—*School and Society, September 17th, 1921.*

A Geographic Magazine as a class Project, by Elizabeth Wolff.—*Journal of Geography, Menasha, Wis., May, 1921.*

How to Teach Beginning Reading I, by Samuel Chester Parker.—*The Elementary School Journal, September, 1921.*

The Size of Classes.—*The Times Educational Supplement, September 10th, 1921.*

The Dalton Plan. Miss Helen Parkhunt. A series of six articles in *The Times, Educational Supplement, July 2nd, 9th, 16th and 23rd and 30th and August 6th.*

Self Government in Schools. An examination and criticism of some recent tendencies.—*The Times Educational Supplement, September 3rd 1921.*

Educational Boards and Foundations, by Henry R. Evans. Advance sheets from the Biennial Survey of Education 1918-20. It describes the activities of the General Education Board (Rockefeller). The Rockefeller Foundation, The Carnegie Foundation, The Phelps-Stokes Fund and the John F. Slater Fund.—*Bureau of Education, Washington, D.C.*

Projects and the Project Method, by W. C. Ruediger. An analysis and criticism of the movement.—*School and Society, October 1st, 1921.*

Some Persistent Errors in Geography Teaching, by E. A. Parking, George Peabody College for teachers.—*The Educational Review, Sackville, N.B., October, 1921.*

Annotated Bibliographies for Candidates for Degrees in Pedagogy

I. Educational Psychology

It is expected that students have an elementary knowledge of general psychology. If they have not, they should first read such texts as Warren: *Human Psychology*, or Angell: *Psychology*, or Pillsbury: *Essentials of Psychology*. Warren's text gives the modern behaviouristic viewpoint.

The work in Educational Psychology is conveniently divided into six branches, as follows:

(1) The original nature of man—a discussion of man's heredity and native equipment for learning. Practically all recent text-books in

educational psychology deal with this subject. The best of them is Thorndike: *Educational Psychology*, 3 volumes. The first volume is entitled, *The Original Nature of Man*. Thorndike: *Educational Psychology—Briefer Course*, is a one-volume condensation of his three-volume work. Starch: *Educational Psychology* is more readable than Thorndike. The first section deals with "The original nature of man". Other books which may be usefully consulted are: Ladd and Woodworth: *Physiological Psychology*, McDougall: *Social Psychology*, Drever: *Instinct of Man*, and Sandiford: *Mental and Physical Life of School Children*.

(2) The learning process. For this topic Thorndike: *Educational Psychology*, volume II should be read, together with the second section of Starch: *Educational Psychology*. The classic chapter on Habit in James: *Principles of Psychology*, 2 volumes, should be studied.

(3) Genetic Psychology—the psychology of childhood and adolescence from the genetic standpoint. The classic work for this section is Hall: *Adolescence*, 2 volumes. These volumes are very difficult to read. Hall's position is best obtained from chapter X and the preface. Partridge: *Genetic Philosophy of Education* is a compendium and exposition of Hall's educational writings. Other works which should be consulted are Waddle: *Introduction to Child Psychology;* Tracy: *Psychology of Adolescence*, and Norsworthy and Whitley: *The Psychology of Childhood* The last three books are of recent publication.

(4) The psychology of elementary and high school subjects, including standard tests and scales for the same. For elementary school subjects Freeman: *Psychology of the Common Branches* is perhaps the best available text. For high school subjects, Judd: *Psychology of High School Subjects* is a passably good text. The best work on this branch of educational psychology is in monograph form. *Huey*: *Psychology and Pedagogy of Reading*, and Hamilton: *Psychology and Pedagogy of Writing* are both excellent treatises. Monroe, DeVoss and Kelly: *Educational Tests and Measurements* is probably the best account of standard tests and scales. Monroe: *Measuring the Results of Teaching* is a later abbreviation of the earlier work. Individual tests and scales should be studied and used wherever possible.

(5) Intelligence, its nature and measurement. From many points of view this branch may be regarded as a sub-topic of I. The best general treatise is Woodrow: *Brightness and Dullness in Children*. Terman: *Measurement of Intelligence* is very sane. It deals with the Stanford Revision of the Binet-Simon tests. Samples of such tests as the National Group Intelligence Tests, The Stanford Revision of the Binet-Simon tests, the Otis Group Intelligence tests, Haggerty tests, Thorndike High School tests, Detroit Primary tests should be in the hands of all candi-

dates. Pintner and Paterson: *A Scale of Performance Tests* deals with the problem of the measurement of intelligence of those to whom language is denied.

(6) Statistics applied to Education: methods of presenting and interpreting Educational data by statistical and graphical methods. The one and only book which is recommended for this section of the course is Rugg: *Statistical Methods Applied to Education.*

Book Reviews

Maria Chapdelaine, by Louis Heman, translated by W. H. Blake. The Macmillan Co., Toronto, Ont. $1.50. This charming story of French Canadian life by a young French author, victim of a railway accident at Chapleau, Ontario, in 1913 at the early age of thirty-three, is a real contribution to our literature. The author, who came to Canada in 1911, spent a year and a half in the neighbourhood of Lake St. John at the head of the Saguenay River; the result of his study of life and its conditions is seen in this delightful idyll. There is practically no plot, but the beauty of the descriptions and the human interest and sympathy keep the reader enthralled. The spirit of the habitant pioneer which impels the father of Maria to move away from the more settled portions to "make land" in the wilds, the unending struggle with the powers of nature, the simple childlike faith of Maria herself are portrayed with singular pathos. The characteristic of the habitat most strongly emphasized, are an affection for home and family, a love of the native soil, a clinging to old tradition and superstition, and a devotion to the church and her teachings. Mr. Blake is to be congratulated on his sympathetic rendering of this work which we heartily recommend to our readers.

W. C. F.

Report of Conference on Education Statistics, Dominion Bureau of Statistics, Education Division. Ottawa, 1921. This short pamphlet of 29 pages is one of the most important documents recently produced in Canada, since it bids fair to bring order out of the chaos in which our educational statistics still remain. At present, as any research worker on Canadian education knows, Dominion educational statistics have been worse than worthless, for, being published under the imprimatur of a Government Department, they have been regarded as reliable and accurate, while all the time they were the reverse of this.

Any uniformity in reporting educational facts must be a matter of voluntary agreement among the various provincial officials; there is no machinery to compel it. Fortunately, all the provincial education departments were represented at the Conference and a spirit of willing

co-operation was evinced by the delegates. Quebec was a little dubious about some of the resolutions, but no hostility to the main propositions was shown.

The provincial education officials have pledged themselves to secure uniformity in reporting educational progress by the adoption as soon as possible of such measures as the following: a uniform statistical year ending June 30th; the grading of elementary and secondary pupils in twelve continuous grades; the use of Dominion Census figures for school populations; the adoption of numerous uniform tables in the collection of education statistics. On the other hand the Dominion Bureau of Statistics has offered to place all its machinery for the compilation of results at the service of the various provinces, working the raw figures up in any way that the several provinces may desire. All of which is splendid news.

In examining the various resolutions and tables critically, the reviewer has found little to condemn; much to approve. The age-grade distribution (Table I) is the best that could be devised. It will provide material for interpretation in a dozen different ways, and is the crux of the whole situation. Table III uses the average for daily attendance. Could not the median be used here, and in all other places where the delusive average is employed? The half days $19\frac{1}{2}$, 20 to $39\frac{1}{2}$ should also be used here. Table VII, with the slightest adjustment, could be made comparative. It is difficult to determine whether in this table janitor's salaries are included in the item "officials' salaries" or in that of "cleaning and care of house and grounds". There should also be separate items for "texts" and for "lighting". Statistics of special schools (p. 17) will also cause confusion. The term "special schools" has come to mean such schools as those for mental defectives, for cripples, for the blind and deaf, etc. To use it for private institutions, universities, etc., is to undo a good work.

But the greatest defect is in the omissions. The racial origins of the pupils are not recorded. No tables appear to include the costs of medical and dental inspection, the cost of tuition per pupil in each of the types of schools, or to recognize the existence of evening schools. Further, there is no blank recommended for a continuous school census (the basis of all educational reporting). Finally, since the object of all collection of statistics is publicity, would it not be in place to add an appendix on "Suggestions for the graphical representation of educational statistics?" Publicity demands a presentation in graphical forms. Nevertheless, in spite of these minor and remediable defects, the proposals are excellent and the authors of them deserve the highest commendation for the work they have done. P. S.

Meteorology, by A. E. M. Geddes. 390 pages. Published by Blackie & Son, London. *Simple Lessons on the Weather*, by E. Stenhouse. 135 pages. Published by Methuen & Co. Price 4*s*. The fact that two text-books on the weather should be reviewed in one issue of THE SCHOOL indicates the greatly increased interest that is being taken in meteorology. Geddes's *Meteorology* is a splendid book from every standpoint. The paper, letter-press, and binding are excellent, the illustrations are superb, and the subject matter and style are of such a character that it will soon become a rival of Milham's text as the best text-book in English on the subject of meteorology. It is recommended to our High School teachers of geography. *Simple Lessons on the Weather* is a much more elementary book, which is also beautifully illustrated. It discusses many topics of interest to the teacher of geography and can be profitably read by any person who is desirous of understanding the facts about the weather. G. A. C.

Human Geography, by Jean Brunhes. Translated by T. C. LeCompte. 648 pages. Published by Rand McNally & Company, Chicago. Price five dollars. One of the most notable books on Geography published during the last ten years. Slowly we are learning that geography treats of the influence of natural phenomena on man. Many books have been written that endeavour to incorporate this idea with the old idea of geography, but the two ideas do not mix very readily. The present volume attempts with a great deal of success to give a positive classification of principles of geography on the new basis. The author does this with great clearness and instead of covering the whole field takes examples, which he has studied with great minuteness, in order to illustrate his principles. For the teacher of geography it is an epoch-making-book. G. A. C.

Practical Mathematics, by A. Dakin, M.A. 386 pages. Price 5*s*. G. Bell & Sons, Ltd., London. This book treats of the directly useful parts of Elementary Mathematics and aims at developing a course which should be suitable to pupils in Technical and Commercial Schools. The course is based largely on intuition and experiment but emphasis is also laid upon the principles underlying the various calculations and constructions. A valuable part of the book is a section on numerical trigonometry which follows directly after the geometry of the triangle. All teachers of secondary mathematics will find this an interesting book.

J. T. C.

Teacher: "What is an engineer, Tommy?"
Tommy: "A man that works an engine."
Teacher: "That's right, Jimmy, what is a pioneer?"
Jimmy: "A woman that works a piano."

Book Notices

(Mention under this head does not preclude review elsewhere)

Annotated Renderings of 100 passages selected from *A Manual of French Composition*, by R. L. Graham Ritchie, Professor of French in the University of Birmingham and James M. Moore, Lecturer in French in the University of Edinburgh. Cambridge, University Press. 10s. net.

A Sketch-Map Geography, by E. G. R. Taylor. 147 pages. Published by Methuen. This volume is of an entirely new type, and shows one direction in which geography-teaching is moving. The groundwork of the book is maps and the reading matter is supplementary and explanatory of the maps. All kinds of topics are treated in this manner. "Berlin, with the Oder and Elbe Basins", "The Rift Valley and the Alpine Sections of the Rhine and Rhone" and "Western Margins of Canada and the United States" are titles of topics treated and will give a fair idea of the kind of matter illustrated by the sketch-maps. G. A. C.

Human Geographies: Europe and Britain, Book VI. Published by the Geo. Philip & Son, Ltd., London, Eng.; the Renouf Publishing Co., Montreal. This volume correlates history and geography in a very interesting way. The numerous black and white maps and diagrams are helpful and illuminating. A special feature of this book is that maps of very small areas are given. These enable the reader to visualize easily the part of the country under consideration. Senior students will find the style graceful and the subject matter interesting and instructive. The "human" element is prominent throughout. F. A. J.

Blackie's New Systematic Geographies, Regionally Treated, by David Frew, B.A. Book I. The British Isles. Book II. The British Empire. Book III. Europe. Book IV. Asia and Africa. Book V. America and Oceania. Stiff paper, each 64 pages, illustrated. London, Blackie & Son, Ltd., 1921. "This series of Geographies seeks to put before young pupils in the clearest way, and in the simplest language, the chief geographical facts which it is necessary to know regarding the world. It seeks to show that the climate—temperature, rainfall, etc.—and therefore the productions of any portion of the earth's surface are determined by position, soil and surroundings".

Stories and Outlines for Composition, by W. J. Karr, B.A., D.Paed., Ottawa Normal School, Ottawa, Canada. Cloth, 252 pages. Price 75c. The Copp Clark Co., Limited, 1921. "The purpose of this book is to provide, for the use of teachers in elementary schools, a fund of materials for composition, to supplement those in the authorized text-books". The book fulfils its function admirably. It contains stories for reproduction, original stories with familiar themes, partially-told stories for composition, stories from pictures, outlines for composition, and letter-writing. Very valuable suggestions as to methods are also given. The stories are beautifully adapted to the interests and mental capacities of the pupils. This book is highly recommended and should find a place on every busy teacher's desk. F. E. C.

Notes and News

Last Year's Classes in the Training Schools

Ontario College of Education.—Miss Helen Kerr is teacher at Cayuga; Miss Theresa Murphy is teaching at Morewood; Miss Norma Stewart at Caledonia.

Stratford Normal School.—Miss Edith A. Mogridge is teaching at Auburn; Miss Annie McDonald at Ripley; Miss Lillian M. Muir at R.R. No. 1, Palmerston; Mr. Forrest H. Craig at R.R. No. 1, Chesley; Mr. Jack D. Campbell in St. Thomas at 49 Elgin Street; Miss Kathryn Bean at Elmira; Miss Nellie M. Robertson at Box 58, Ripley; Miss G. M. Shewfelt at R.R. No. 3, Tiverton; Miss Irene Jefferson at R.R. No. 4, Wiarton; Miss Edna L. Andrews at Little Current; Miss Eileen Taylor at R.R. No. 5, Owen Sound; Miss Annie MacArthur at R.R. No. 2, Kincardine; Miss Violet R. Watson at R.R. No. 2, Hespler; Mr. D. A. McLay at Eden Grove; Miss Annie L. Lawton in Burtch School, R.R. No. 3, Brantford; Miss Mabel Hawthorne at R.R. No. 2, Milverton; Miss Clara Wallis at Box 74, Wyoming; Miss Lillian Hutton at R.R. No. 2, Palmerston; Miss Lauretta Hay at R.R. No. 2, Wallenstein; Miss Luella B. Stirling at R.R. No. 3, Tiverton; Miss Aimee Roger at R.R. No. 2, Baden; Miss Marietta Park, at R.R. No. 4, Durham; Miss Jean Sparling at Union Creek; Miss Alberta Isard at Kincardine; Miss Janie Luttrell at Ayton, R.R. No. 3; Miss Vila J. Musselman at R.R. No. 3, Bayfield; Miss Irla M. Musselman at R.R. No. 2, Zurich; Miss Agnes G. MacLaren at R.R. No. 2, Tiverton; Miss Violet Kilpatrick at R.R. No. 1, Dungannon; Miss Vera M. Haist at R.R. No. 1, Seaforth; Miss Elinor Crookshanks at Norwich; Miss Edythe Fitzgerald at Glen Morris; Mr. John H. Rennie at Springford; Mr. T. C. H. Smith, at Alliston; Miss Frances L. Twamley at R.R. No. 5, Embro.

Hamilton Normal School.—Mr. Joseph Garvey is teaching at R.R. No. 3, Orillia; Miss Elizabeth D. Taylor is teaching in King George School, Hamilton; Miss Winnifred Burkholder at R.R. No. 1, Stoney Creek; Miss Elva W. Jackson in Lloyd George School, Hamilton; Miss Ruth E. Kendall at R.R. No. 1, Norwich; Mr. Dean Edmiston at R.R. No. 2, Wellandport; Miss Sylvia Grenzebach at R.R. No. 4, Stratford; Miss Marion Puttick in Lloyd George School, Hamilton.

London Normal School.—Miss Mary B. Taylor is teaching at R.R. No. 2, Tupperville; Miss Eveline Shepley at R.R. No. 1, Kingsville; Miss Mina L. Bryant at R.R. No. 2, Alvinston; Miss Beryl Fleming at Pelee Island; Miss Elizabeth McKeon at R.R. No. 1, Bickford; Miss Effie W. McCallum at R.R. No. 8, Parkhill; Miss Marjorie H. Carruthers at R.R. No. 3, Newbury; Mr. Norval J. Woods at R.R. No. 5, Chatsworth; Miss Elva Matthews at R.R. No. 2, Brussels; Miss Mary Coulter at R.R. No. 4, Dresden; Miss Marie D. Shaw at R.R. No. 2, Brigden; Miss Helen I. Donovan at R.R. No. 1, Port Stanley; Miss Laura Morrison at R.R. No. 5, Dresden; Miss Ruby D. Boyer at R.R. No. 1, Essex; Miss Grace Kinder, Box 52, Wesptort; Miss Margaret E. Shaw at R.R. No. 3, Port Elgin; Miss Ruth Purvis at R.R. No. 1, Muirkirk; Miss Carrie M. Martin in S.S. No. 7, London Tp., Ilderton; Miss Verna

Vanstone at R.R. No. 8, Parkhill; Miss Gladys Grant at Cainsville; Miss Myrtle Webb in Ward School, Ingersoll; Miss Margaret L. Guest at R.R. No. 3, Ayr; Miss Ethel O'Connor at R.R. No. 2, Tupperville; Miss Ardath E. Pope at Thorold; Miss Jessie McCallum at R.R. No. 3, Ilderton; Miss Elma V. Taylor in S.S. No. 1, S. Norwich; Miss Claire E. Howse at R.R. No. 1, Dashwood; Miss Myrtle L. Gartly at R.R. No. 2, Dunnville; Miss Margery E. Sullivan at Lucan; Miss Sadie M. Cran at R.R. No. 3, Petrolia; Miss Mary Bradt in S.S. No. 22, Malahide; Miss Neta Pearce at R.R. No. 2, Aylmer; Mr. M. E. Barons in Springfield.

North Bay Normal School.—Miss Madeline Donnelly is teaching at Temagami; Mr. James C. Hayes at Moose Hill; Miss Gertrude O'Neill in Maynooth; Miss Gladys Cooke in Hanbury; Miss Agnes Depew in Franz; Miss Olive Keetch in Haileybury; Miss Thelma Brown in Haileybury Public School; Miss Ella L. Pugh at Hilton Beach; Miss Emma E. Graff at R.R. No. 1, Eau Claire; Miss Nellie Shier, S.S. No. 4, Kerns, R.R. No. 1, New Liskeard; Miss Grace A. Sayer in S.S. No. 1, Hugal, Kipling P.O., Warren; Miss Mary N. Hall at R.R. No. 1, Forrester's Falls; Miss M. Ethel Charlton in S.S. No. 8, Medora, Footes Bay; Miss Zaida M. Lawrence at R.R. No. 1, Thornloe; Miss Kathleen T. McDonell in Penetanguishene; Miss Evelyn Shanahan in U.S.S. No. 1, Gurd and Pringle, Commanda; Miss Madge Aubert in Charlton Public School; Miss Elizabeth Murphy in S.S. No. 3, Papineau Township, Mattawa; Miss Edna M. Williams at R.R. No. 1, Midland; Miss Cora M. Emiry at Lee Valley, via Webbwood; Miss Fanny LaBow at Box 360, Pembroke; Mr. M. J. Crough at Hanbury P.O.; Miss Ida Murray at Downeyville; Miss Mary W. Burns at R.R. No. 2, Charlton; Miss Verna Keetch at Hilton Beach; Miss Helen Murray at R.R. No. 1, Uptergrove.

Ottawa Normal School.—Miss Victoria Lett is teaching in S.S. No. 8, Golbourne, R.R. No. 1, Ashton; Miss Florinda Johnson at R.R. No. 2 Greenfield; Miss Janet E. McGregor at R.R. No. 1, Cobden; Miss Lila A. Blaine at R.R. No. 2, Merrickville; Mrs. Myra Lindsay at Arnprior; Miss Mildred V. Bradley at R.R. No. 2, Mountain; Miss Nancy A. Gollan at Lucknow; Miss Mary McCusker at R.R. No. 2, Vankleek Hill; Miss Jane Mullins, in Ottawa, at 111 Cambridge Street; Miss Irene MacLachlan at Cumberland; Miss Helen M. Smades at Gananoque; Miss Mary Durant at R.R. No. 1, Box 26, Hammond; Miss Alice Metcalfe at R.R. No. 5, Pembroke; Miss Elizabeth Gorman at Douglas.

Peterborough Normal School.—Miss Gladys Reynolds is teaching at Wood P.O.; Miss Edith McDonald at Victoria Harbor; Miss Mary Weddell at R.R. No. 3, Napanee; Miss Ruth M. Baker at R.R. No. 1, Bobcaygeon; Miss Alice R. Milne at R.R. No. 3, Stouffville; Miss Kathleen Dalton in S.S. No. 3, Bromley, Cobden; Miss Carmelita Fox at Elzevir P.O.; Miss Alexandria Ritchie at Orillia; Miss Elma Gardiner

at R.R. No. 1, Washago; Miss Carrie E. Piper at R.R. No. 1, Roslin; Miss Anna M. O'Connor at R.R. No. 6, Peterborough; Miss Beulah K. Hallowell at R.R. No. 1, Port Hope; Miss Gertrude S. Newman at Castleton; Miss Viola B. Craven at Trent River; Miss May Grant at R.R. No. 1, Atherley; Miss Myrtle Benedict at Campbellcroft.

Toronto Normal School.—Miss Jean Bradley is teaching at Plevna; Miss Gertrude F. Anderson at Terra Cotta; Miss J. Evelyn Davy at Campden; Mr. Edward J. Orendorff, at Killarney; Miss Hannah E. Jaffary at R.R. No. 1, Moonstone; Miss Drucilla Poucher at R.R. No. 3, Thornton; Miss Jean L. Fitzgerald in K.P. Room, at Williamson Road School, Toronto; Miss Elsie Lemon at R.R. No. 3, Stouffville; Miss Ida M. Hopper at Caisley; Miss Jean Blain at Box 324, Weston P.O.; Mr. C. T. Sharpe in Toronto at 2½ Lindsey Ave.; Miss Olive M. Mowat in Toronto at 106 Beverley St.; Miss Bertha Dick at 2 Park St., Weston; Miss Ethel M. Lake in Toronto at 910 Ossington Ave.; Miss Viola Kee at Malton; Miss Edna G. Ross at R.R. No. 2, Carleton Place; Miss Louise Bonham at R.R. No. 2, Cheltenham; Miss Flora C. McKinnon at Burlington; Miss Myrtle W. Clarridge in Toronto at 446 Sherbourne St.; Miss N. B. Wilson at Box 23, Castleton; Miss Gladys Durling at Tory Hill; Miss Kathleen Connor at R.R. No. 1, Bloomfield; Miss Mildred E. Adair at Box N. Oshawa; Miss Ethel M. Barker at R.R. No. 1, Alton; Miss Anna K. Horan, in Toronto, at 420 Wellesley St.; Miss Mary

Gillanders at Ridgetown; Miss Margaret Roberts is on Toronto Occasional Staff; Miss Hannah E. Jaffary at R.R. No. 1, Moonstone; Miss J. Evalyn Davy at Campden; Mr. J. N. Campbell in S.S. No. 14, Goulbourn, Stittsville; Miss Gertrude F. Anderson, at Terra Cotta; Miss Grace E. Gulston at R.R. No. 1, Downsview.

A meeting of the members of the Toronto Normal School, 1920-1921 class, will be held in the theatre of the Normal School on Saturday evening, November 5th at 8.20 p.m. The purpose of the meeting is to effect an organization and lay plans for functions that will bring the members of this class together from time to time through the year. It will also present an opportunity to see each other and talk over the experiences, grave and gay, of the first few weeks of teaching. As this is a week-end holiday, it is hoped that all who are in or near the city for the occasion will attend the meeting. It is hoped that some of the Normal School masters will be present.

Dr. James C. Miller, who for the past two years has been assistant Director of Technical Education for Ontario, has resigned his position to become Prof. of Education in the University of Indiana. Dr. Miller has filled many important posts. He was principal of a Normal School in Alberta, and later Director of Industrial Education for that Province. In 1917 he became Field Organizer with the American Federal Board of Vocational Education, and then in 1919 came to Ontario. He has done important work in this Province, and now takes up a post in Indiana that will give him ample scope for his energies.

Major F. J. Ney, the General Secretary of the National Council of Education for Canada, organized at Winnipeg in October, 1919, has just returned from Europe, where he has been making preliminary arrangements in connection with a conference on education in relation to citizenship, which the council is organizing to take place at Toronto in April, 1923. Among those who have accepted the council's invitation to attend this gathering are Sir Michael Sadler, the Vice-Chancellor of Leeds University, who is to be one of the principal speakers. Sir Michael Sadler's reputation as an educationist of wide vision and sympathy is well-known throughout the Dominion and the announcement that he is to be present in 1923 will be received with interest. The council is fortunate also in having secured a promise from Sir Robert and Lady Baden-Powell to attend in their capacity as chief of the Boy Scouts and Girl Guides respectively. It is the council's intention to emphasize the value of these two great organizations as factors in training for citizenship. Sir John (Martin) Harvey has also undertaken to so arrange the itinerary of his next Canadian tour so that he will be in Toronto for the fortnight beginning Easter Sunday when, in addition to the presentation of a number of classical and Shakespearian plays, he will take part in

the conference. In addition to the names already mentioned, and to the representatives from France, the council has secured an undertaking to be present from Mr. Albert Mansbridge, the founder of the Workers' Educational Association. Mr. Cecil Sharpe, who has devoted his life to the resuscitation of folk music, song and dance, is also to attend with a group of folk dancers selected from among Oxford undergraduates. Working in co-operation with him will be Mr. James Bates, the author of a large number of works on voice production in schools. With him will come a group of fifty boys and girls chosen from among his many classes and London choirs. The council is anxious to emphasize the urgent need in Canada of more music in our schools and in the community as a whole, and proposes to organize a department of national music as a definite part of its programme. Certain progress in this direction has already been made, but it is not expected that this proposal can be fully developed until after the conference and public interest has been aroused. An announcement will be made later of the Canadian speakers.—*The Mail and Empire, Toronto.*

"Preliminary to his lecture on 'Colour Phenomena and Photographic Reproduction' before the East Carleton Teachers' Association in the Normal School Assembly Hall last night, Professor A. L. Clark, dean of the faculty of applied science, Queen's University, remarked that the exodus of professors from Queen's, who were going to address similar conventions throughout Ontario, was the best indication of the place the university occupied in popular education. Practically every subject was being covered, and the general public would be surprised were it in possession of the list of meetings addressed by professors of all the faculties."

Professor Clark then delivered an exceedingly interesting lecture on "Colour Phenomena and Photographic Reproduction", illustrated by numerous lantern slides showing experiments bearing out the theory that colour was the selection by various pigments of one of the spectrum range. The lecturer claimed no originality for the ideas put forward, remarking that most of the experiments had been worked out for his own amusement. That they proved of considerable interest to the audience was evidenced by the close attention paid to the lucid explanations given by Professor Clark.

Violin solos by Miss M. Black, recitations by Miss Jean Garry, and a vocal number by Miss Brown completed an interesting programme. The afternoon session was taken up by a visit to the National Gallery and Museum, where, under the guidance of the various officials, every department was visited and thoroughly explained. The convention will terminate with this afternoon's meeting.—*Ottawa Journal, October 7th.*

It would seem that a notable advance is to be made in Ontario in the introduction and use of visual aids for the teaching of a great variety of subjects. The Department of Education secured a grant of $25,000 at the last session of the Legislature in aid of visual education. Fortunately the available supply of films, slides, and pictures is becoming increasingly large and satisfactory. Heretofore, the chief difficulty with moving pictures has been a poor supply of educational films. That handicap is being rapidly overcome. A new Canadian company, which is advertizing in this issue, has for rent a wide variety of films on subjects ranging all the way from highly scientific biology to juvenile stories and fairy tales. It is now possible to use slides with films in a machine which is so arranged that the operator may change very quickly from film to slide and back again to film. That teachers are using more visual aids in their work is evident from the appearance of another advertisement in this issue from a man who makes a specialty of manufacturing and colouring slides and pictures and from still a third firm advertizing lanterns for school use. The following paragraph from *The Globe's* educational column will be of interest to teachers using slides. "The Natural Resources Intelligence Branch, Department of the Interior, Ottawa (Mr. F. C. C. Lynch, Superintendent), has taken over the lantern slide work formerly carried on by the Commission of Conservation. The slides and accompanying lectures thus transferred, added to the 10,000 coloured slides already in the library of the Intelligence Branch, constitute a great collection of Canadian material, which is always at the service of Canadian schools. A catalogue of these slides and lectures is to be issued shortly. In the meantime, write Mr. Lynch if you want to use any of these Canadian slides and lectures, and he will be glad to be at your service".

The "Syllabus of Physical Exercises for Schools", which was copyrighted and published by the Executive Council of the Strathcona Trust, Ottawa, in 1911, was furnished free for the Provincial schools by that Council. One copy was sent to every Public, Separate, Continuation and High School and Collegiate Institute to be the property of the Board for the use of the teachers. If copies were required for other schools, or more copies than one were required in those schools, they had to be purchased. The above stated Syllabus is now superseded by the "Syllabus of Physical Training for Schools 1919", which is published by His Majesty's Stationery Office, London, England. The 1919 Syllabus is now being furnished free by the Executive Council of the Strathcona Trust in the same manner as was the other Syllabus, and a copy is being forwarded to every school to remain the property of the Board and to

be used by the teachers. Copies required for any school, other than as stated above, or additional copies required for those schools, or copies required by individuals, must be purchased. At present the book is obtainable by purchase directly from H. M. Stationery Office at the following addresses: Imperial House, Kingsway, London, W.C. 2, and 28 Abingdon Street, London, S.W. 1; 37 Peter Street, Manchester; 1 St. Andrew's Crescent, Cardiff; 23 Forth Street, Edinburgh.

Manitoba

Manitoba was again successful in winning the Governor-General's Challenge Shield presented yearly to the province having the highest percentage of enrolled cadets in the schools. The shield will be held by the St. John's school cadet corps, as it ranked as the most efficient unit in the province. Sir James A. M. Aikens made the presentation and pointed out the fine work being done by the cadet instructors. This province had 8,581 cadets out of a school attendance of 123,452, or 6.95%. Quebec came second with a percentage of 6.52, and British Columbia was third with 4.97%.

Mr. Geo. Poof, of the Dauphin Collegiate staff, is now doing High School work in Winnipeg.

Mr. L. E. Lynd, B.A., formerly of Newdale, has been appointed principal of the Oak River Intermediate School, succeeding Mr. Johannson, who goes to the principalship of the Hamiota High School.

Mr. Snodgrass. of Fredericton, N.B., is the new principal of the Binscarth Intermediate School.

The following have been appointed members of the Advisory Board of the Department of Education for a further term of two years dating from August first, 1921: His Grace Archbishop Matheson, Winnipeg; President James A. MacLean, Ph.D., Winnipeg; Rev. Dr. David Christie, Winnipeg; Alfred E. Hill, Brandon. At the September meeting of the Board His Grace was re-elected chairman for the current year.

Principal Earl A. Ross, of the Britannia School, Winnipeg, spent the vacation at the University of Chicago, taking a special course in School Administration. Mr. Ross has been princiapl of the Britannia School for several years and has organized it in a very efficient manner.

Evening classes for general and technical education, under the direction of the Winnipeg School Board will commence on Monday, October

10th, and continue until March 17th. Last year the attendance was about 5,200 and the indications are that these figures will be exceeded this winter.

The session is divided into two terms, with registration for each term. The first extends to December 16th, and the second to March 17th. Students attending 75% of the lectures of the first term will not be required to pay a second fee for the second term, their original fee being carried over. The original fee is returnable at the end of the second term if the attendance is maintained.

Several courses are available to students, including a general course consisting of reading, writing, spelling, arithmetic, etc. There are also matriculation courses and many in technical work.

The fee is $5 a term. Only an applicant who is seeking instruction in order to advance himself in his trade or profession will be entitled to a refund of this deposit under the prescribed attendance conditions. Thus, an automobile owner who is attending the courses for the purpose of obtaining information that will assist him in making repairs, can get no refund.

The Winnipeg evening classes have been very successful and are immensely popular.

The most important case to come before the Board of Reference recently was that of Principal W. D. Bayley, M.L.A., of the King George V. school, St. Boniface. Mr. Bayley delivered an address in the Labor Church, Winnipeg, early in August, an account of which appeared in a newspaper the following Monday. On the strength of this report of views alleged to have been expressed in this address and certain pressure brought to bear by ratepayers, the St. Boniface School Board dismissed him with two months' salary. Mr. Bayley appealed to the Manitoba Teachers' Federation and the executive of that body immediately took steps to enquire into the facts of the case. In the meantime the Canadian Teachers' Federation took action whereby teachers were warned about the situation. On getting the facts of the case, the Manitoba Teachers' Federation asked for the Board of Reference and this Board on further consideration ordered a sitting for October first, at St. Boniface. This Board consists of three members, namely, Mr. A. E. Hill, of Brandon, chairman, appointed by the Department, Mr. J. Allison Glen, of Russell, appointed by the Manitoba Trustees' Association, and Mr. C. W. Laidlaw, B.A., appointed by the Manitoba Teachers' Federation.

The Board met on the first, and evidence was heard; and then on the suggestion of both Mr. Huntly, president of the M.T.F. and Mr. Marion, chairman of the St. Boniface School Board, both parties were allowed to retire and endeavour once more to come to an understanding independently of the Board. This the Board of Reference granted.

After a lengthy conference the School Board agreed to reinstate Mr. Bayley into the principalship of King George V. school. This was done at their regular meeting, Tuesday, October 4th. Mr. Bayley stated, however, that if there was any extensive public feeling against his retaining the position, he would resign. His promise to abide by public opinion is embodied in a letter to the Federation. The following official statement in connection with this case was issued by the M.T.F.:

"The Federation desires to make a statement in connection with the rescinding by the school board of the motion dismissing Mr. W. D. Bayley from his position as principal of King George V. school, in St. Boniface. This action of the trustees completes the vindication of Mr. Bayley in connection with the very unjust interpretation put upon his words uttered in Victoria park. The hearing before the Board of Reference brought out the true facts of the case and the school board felt that in the light of these facts it could do nothing less than what simple justice demanded, withdraw the motion of dismissal.

"The Federation further wishes to state that Mr. Bayley feels that his position as principal in the school has been very much compromised by these unjust reports circulating among the ratepayers of the district.

To such an extent may this be the case that it may be possible that his usefulness as a teacher in the district may be to a considerable degree impaired. He is unwilling under these circumstances to undertake the work of the school and has placed his resignation in the hands of the Federation to be forwarded to the board. Before sending it the Federation wishes to state that in the evidence given at the hearing before the Board of Reference, very high testimonies were given Mr. Bayley as a teacher and as principal of the school. In fact his qualifications in this respect appear to be of an unusually high standard. It would appear as if it were indeed unfortunate that a district should lose so well qualified a principal because of the lingering of any prejudice which should disappear in the light of the evidence given before the Board of Reference."

Without doubt, this is a most signal accomplishment for the Manitoba

Teachers' Federation. The Federation officials are to be congratulated on the vigor and sanity of their work, and the St. Boniface School Board on its willingness to abide by the facts of the case in a sportsmanship manner. Both parties had a fair test of strength, both respect each other, and both have a healthy regard for public sentiment.

Quebec

A. Kirk Cameron, Montreal, and Victor E. Morrill, Sherbrooke, have been appointed members of the Council of Public Instruction to succeed Professor J. A. Dale and the Hon. Sydney Fisher.

The Protestant Committee of the Council decided to have no educational campaign this fall.

The Course of Study Committee has re-emphasized the necessity of retaining History as a compulsory subject in high school grades and for the school-leaving certificate. It was also decided that the examination papers in Grade VIII should be examined and valued by the teacher of the various schools.

The Committee also withdrew by resolution the exemption given to ministers to teach in public schools without a diploma. This was done in accordance with Article 2586 of the School Law.

James B. Macmillan, former principal of Huntingdon Academy, has been appointed principal of Gault Institute, Valleyfield.

The attendance in the public schools of Montreal is nearly 3,000 greater than last year. The opening of two new schools will take care of the increase, but the necessary accommodation has not been provided much in advance of actual requirements. Maisonneuve School was opened by the Hon. Walter Mitchell, the Provincial Treasurer, and Devonshire School by the Hon. L. A. David, Provincial Secretary.

Mr. Duncan McKenzie, teacher of music in Montreal High School, has been recommended for the position of supervisor of music in Toronto schools. The good wishes of his fellow teachers in the Province of Quebec, go with Mr. McKenzie to his new position in Ontario.

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The School

"Recti cultus pectora roborant"

Editorial Notes

A Christmas Convention

The seventy-fourth meeting of the American Association for the Advancement of Science will be held in Toronto, December 27th to 31st, 1921. The Association has met in Canada three times before, twice in Montreal—in 1857 and in 1882—and once in Toronto, so that the meeting for 1921 will be the second Toronto meeting.

It may be safely predicted that the seventy-fourth meeting will be exceptionally interesting and inspiring. More Canadian men of science will attend than is usual when meetings are held south of the international boundary, and the scientific workers of the two great English-speaking nations of North America will here have opportunities of becoming even better acquainted than they now are, and for strengthening the bonds of mutual understanding and of personal and national friendship. Arrangements are in progress whereby, it is hoped, several British scientists may be present and give addresses at the various sessions of the second Toronto meeting.

Many affiliated, or otherwise associated, scientific societies will meet with the Association at Toronto, for the reading of papers, for scientific discussion, and for the presentation of presidential addresses, and the sections of the Association will also hold sessions in many instances. The Association is becoming increasingly an affiliation and co-operative organization of the numerous special scientific societies of America and it is provided that the affiliated societies meeting with the Association shall have charge of the programme for the presentation of papers in their respective fields. Each of the retiring Vice-Presidents of the Association, one for each of its sections, will present his scheduled address on some aspect of his own special province.

The announcement of this meeting of the American Association for the advancement of science will be of especial interest to teachers. Indeed, it was timed for the week between Christmas and New Year's so that the teachers of Canada would have an opportunity to take advantage of it. There will be addresses on scientific subjects which no teacher of mathematics or of science would like to miss.

While the whole Convention will be attractive to Canadian teachers, it is the programme of Section Q (Education) and Section I (Psychology) that will naturally interest them most. We have only to mention to readers of THE SCHOOL that such well-known names as those of Thorndike, Yerkes, Judd, Fillsbury, Strong, Weiss, Charters, Healy, and Whipple appear on these sectional programmes to convince them that the convention will be really worth while.

Home and School Associations

The first Home and School Associations in Ontario were organised only five or six years ago, yet there are already in this province about 150 clubs with approximately 10,000 members. This very rapid growth shows the need that existed. Such organisations may well prove to be most useful aids in translating new educational movements or legislation into effective action. Better accommodation and equipment in dozens of schools testifies to the good work that has been done. Pianos, libraries, pictures, gramophones, magic lanterns have been installed either by raising money by entertainments or voluntary levies or by enlisting the sympathies of the local board of trustees.

But of even greater importance than the improvement in school equipment and accommodation has been the increased understanding and good will between parents and teachers. It is difficult for the parents sometimes to see things from the point of view of the teacher, who has to deal with thirty or forty pupils at once, who must make regulations and enforce discipline. It is difficult for the teacher, unacquainted with the home surroundings of the child, to understand the real problem raised by a pupil's apparent incompetence or insubordination. Ten minutes conversation between parent and teacher would allay many misunderstandings and smooth away many difficulties.

While some of these organisations include members who are neither parents nor teachers yet the essential feature of the movement is the co-operation of these two classes, and it is a question if it is wise to go much beyond them. Indeed such organisations in the United States are commonly known as Parent-Teachers' Associations. It will generally be found that their success has depended largely on the interest shown by the teacher. The teacher is indeed frequently the originator of the movement. Were the sympathetic co-operation of either parents or teachers to be found lacking, it would be evidence enough that the organisation had already failed in its chief purpose.

The Shortage of Teachers

Two years ago education authorities everywhere in Canada and the United States were alarmed at the apparent shortage of teachers. The public discussion thus excited had two good effects. It brought home to everyone

the imperative need of keeping the schools going, and it showed that one essential reform was the proper recognition of the importance of the teachers' work by an increase in salaries. Teachers everywhere began to organise, and they felt that they had behind them in their demand, the sympathy of the general public. Trustees generally rose to the occasion and salaries were everywhere increased. Even when this had been done it was a problem whether the supply would be increased in time to meet the demand without lowering standards. It seems now that in Ontario, at least, the crisis has been passed. Attendance at the seven normal schools shows a marked increase. Last year the total number of candidates for First Class teachers' certificates in Ontario normal schools was 127; this year it is 142. Similarly the number of candidates for Second Class certificates has risen from 1187 to 1283. In the Ontario College of Education the number of candidates for High School assistants' certificates has increased from 70 to 130. It will be a matter of general congratulation that the authorities were able to meet this crisis without yielding to the temptation to increase the supply of teachers by lowering the standards of admission.

The Inspector and the Rural School

The inspector of public schools in a city can easily keep in touch with the teachers in his inspectorate. Distance is no obstacle. Teachers' meetings can be held frequently, or the individual teacher can readily communicate with the inspector by telephone or personal call, when any difficulty arises or any information is desired.

But the county inspector must face the problem of distance. He cannot as a rule visit his teachers more than twice a year nor can he call teachers' meetings for discussion or explanation. The Teachers' Institute meets only once a year. His only recourse is the post office and the circular letter. How effective these agencies can be made is evident from the study of the twelve page circular sent by Inspector J. A. Taylor to the teachers of St. Thomas and West Elgin this fall. In this small compass the teachers of West Elgin will find information, guidance, and even inspiration. They are reminded of the provisions of the school law and regulations relating to the Adolescent School Attendance Act, new text-books, and supplementary reading. Detailed courses of study are given for various subjects of the public school curriculum particularly in art and nature study. The selections for memoriastion recommended are quoted elsewhere in this issue.

Thrift

Once upon a time a subscriber wished to send 40c. to THE SCHOOL. She sent a cheque for that amount and registered the letter at a cost of 10c. The cheque was duly cashed in Toronto. The usual charge for exchange cashing such a cheque is

ten cents. Thus the total cost of sending 40c. to Toronto becomes 20c. Postal notes are available in every Post Office at a cost of 3c. including the war tax. We recommend them highly.

Inspector Edwards

Ontario has a just pride in her school inspectors. They are the first among her educational experts—first in rank as well as in good works. Their contribution to the Ontario school system has been greater than that of any, if not all other groups of experts. They must possess high intelligence and great professional skill. Not otherwise could they run the gauntlet of the tests which led to appointments to office. Their duties demand unflagging industry. Successful inspectors bear many and irritant burdens! And while skilled in the ways of schools and pupils they must also know men and affairs.

This thought of the worth and work of the inspector gives peculiar keenness to the regret that follows the passing of Mr. C. B. Edwards, Senior Inspector of London, Ontario. In intercourse with his many friends, in his conferences with professional colleagues, and in his educational plans and achievements in London, Mr. Edwards gave many evidences of a high intelligence. His professional skill was attested by his certificates—he held all that Ontario recognised—by his success, he filled in succession all grades of educational posts and adorned them all. His industry was increasing. By sheer force of will Mr. Edwards worked his way from the humblest to the highest educational service in Ontario. Even when his fatal illness fastened itself upon him his great regret was that he could not do his daily work. And despite the habitudes of the schoolroom, he never lost touch with men and their work-a-day interests. He had been a successful city clerk of London before he became a successful inspector of London Public Schools.

New Subscribers

Many new subscribers to THE SCHOOL, partly from Conventions held late in October or November are asking to have their subscriptions begin with the September number. The circulation manager regrets that this is impossible as the supply of October numbers was soon exhausted though the number of the October issue equalled the largest number of copies ever before printed. Subscriptions received after October 15th will begin with the November issue, as long as copies of that issue are available.

ONLY WHEN HE TALKED

Teacher of Grammar: "Your English is bad. Are you making such mistakes all the time?"

Pupil: "I—I guess I make 'em only when I talk".

A Recent Appointment

The many friends of Mr. Arthur W. Morris, formerly Classical Master in the Hamilton Collegiate Institute, will be pleased to know of his well-earned promotion to the position of Public School Inspector in the City of Hamilton. Inspector Morris after five years teaching in the public schools of Kent and Grey, entered the University of Toronto in 1899 and graduated with honours in classics in 1903. He took his M.A. with honours in 1906. He has been on the staff of the Hamilton Collegiate Institute for fifteen years, and for a good part of the time head of the department of classics. Inspector Morris is not only a sound classical scholar, but also a man of wide interests, deep sympathies, and broad general culture. The teachers in his inspectorate will find him approachable, kindly, and sympathetic, more ready to help than to criticise. THE SCHOOL wishes Inspector Morris the greatest success in his new field of work.

MR. ARTHUR MORRIS, I.P.S. Hamilton

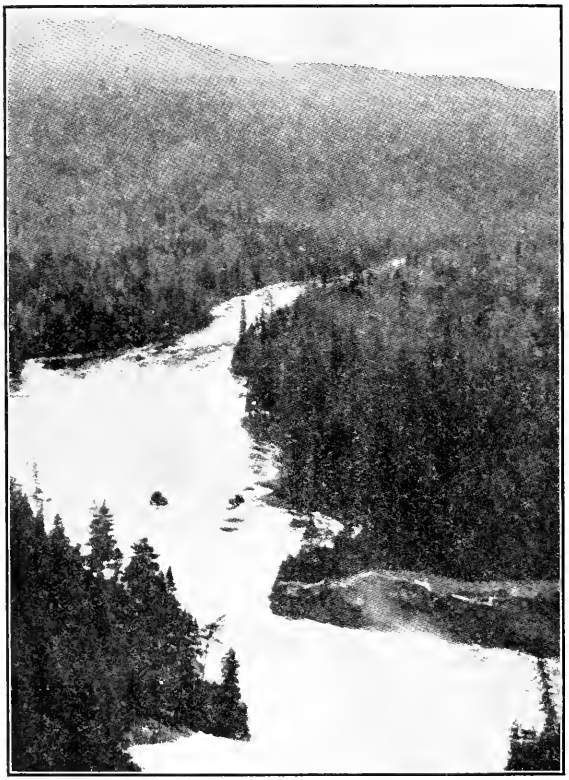
An Educational Tour

(Continued from November Issue)

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto.

BEFORE they went to their berths in the train which awaited them at the Algoma Central Railway depot, the teachers were told that those who wished would be awakened about five o'clock the next morning to view the beauties of the Montreal River and the Agawa Canyon. At the stipulated hour, the call came and from each coach eager, but sleepy, sight-seers stepped to the vestibules. They found the train stationary in the middle of an immense viaduct which spanned the

deepest, most beautifully rugged canyon they had ever seen. From the train steps many took one look into the fearsome depths below and, complaining of dizziness, retreated hastily into the coaches and back to their berths. A few, more sure-headed, remained and were well repaid in grandeur of scenery such as to compel agreement with a Canadian author who writes of this canyon that "it is probably the most beautiful spot in the world". That early morning scene must have left an indelible, a treasured mental picture with all who were privileged to see it. There were many guesses at the depth of the canyon—some thought two hundred feet, some one thousand feet.



RAPIDS OF THE MONTREAL RIVER, Algoma Central R.R.

That morning breakfast was served on board the train by the members of the management committee—and an excellent meal it was! First came sandwiches of several varieties, but all good, then fruit, then coffee. All this was distributed from boxes carried through the coaches and, though the coffee was not exactly steaming hot, it was wet and possessed the necessary "kick".

If ever adjectives were in demand and in use, it was that morning. The train was passing through scenery the like of which few of the party had ever seen. Probably none had guessed that such scenery was to be found in Ontario. Wonderful, remarkable, amazing, grand, beautiful beyond description, lovely, enchanting, admirable, exquisite, gorgeous, splendid—these were only a few of the terms one heard in passing from coach to coach. Mountain and valley, lake and river, canyon and waterfall, forest and clearing, succeeded one another in an

apparently continuous succession of pleasing panorama. One river, it was said by officials, was crossed eleven times in twenty-five miles.

The whole forenoon was spent in visiting in the coaches and in viewing the scenery. Nearly everyone "talked shop"; and, indeed, why not? What is more profitable when teachers "get together", than discussion of the problems of education. One of the advantages gained in a trip like this is the widened circle of acquaintances who have experienced the same joys and sorrows—if there are sorrows in the classroom!

After travelling due north from Sault Ste. Marie for twelve and a half hours at a good rate and with only one stop of a few minutes, the train reached Hearst, on the Grand Trunk Pacific, at 1.30 p.m. Hearst is a optimistic little village of about five hundred inhabitants. With two

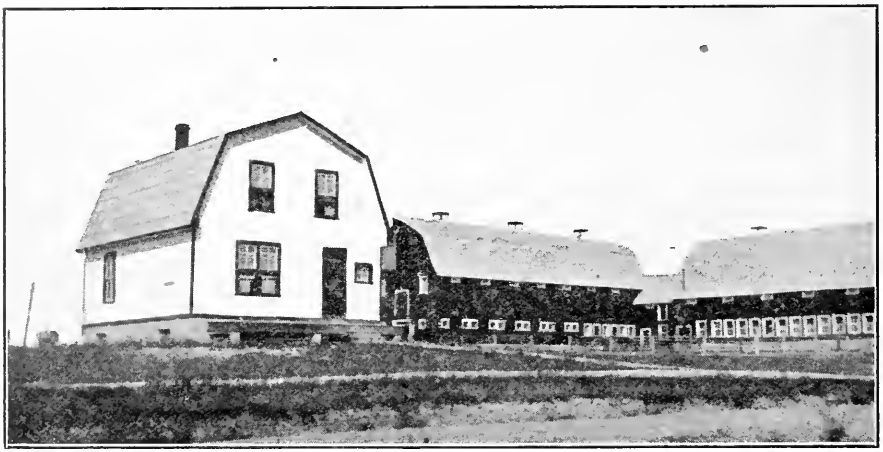
AGAWA CANYON Algoma Central R.R.

or three shops, three churches, apparently a large proportion of non-Anglo-Saxon citizens and an immense preponderance of frame buildings, it bears all the earmarks of the frontier settlement. The soil seems to be black and rich everywhere. The people talk enthusiastically of the agricultural possibilities of the district and maintain that within a radius of five miles there live about three thousand prosperous persons engaged in farming.

The spirit of the people! Let one incident serve as an illustration. Some people in Hearst had heard that last year the town of Cochrane had tendered the touring teachers a complimentary banquet. "If", said these pioneers, "Cochrane can do that, Hearst can do the same". Imagine a little village of five hundred population feeding nearly two hundred hungry educationists! But they did it. The members of the

Mothers' Club and of the Women's Institute provided, in the Orange Hall (and outside on the lawn) one of the finest, most ample, meals the tourists had enjoyed. And it was complimentary! Not to be outdone, however, in this matter of compliments, the committee handed to the president of the Women's Institute a cheque for fifty dollars and to the president of the Mother's Club another of equal amount. And everybody was happy. Speech-making, a "sing-song", a solo, followed the meal, and the teachers were away, with the kindliest feelings for the heroic, hardy little village of Hearst.

Now, east on the former G.T.P. to Kapuskasing, the settlement that has had its ups and "downs", principally downs lately, according to some of the people who live there. But there were numerous improve-



KAPUKASING FARM BUILDINGS

ments since last year's tour. A large building has been erected by a pulp and paper company; there are three "hotels", two cafes, several general stores, a number of dwellings, a power dam, the Experimental farm, and the town-site. That demon of the forest areas, the Red Terror of the nature stories, has done almost his worst here, but the indomitable spirit of the pioneer persists amid discouragements and Kapuskasing has a future before it. It may even be true to the nickname "Keep Us Guessing" which its neighbours have attached to it. The teachers' train stopped only half an hour at this point and then set off east again.

At Jacksonborough near Cochrane (thirty miles is "near" in this country) supper was served—in relays. While the members of the first detachment were eating, those belonging to squads two and three were inspecting the magnificent gardens in the vicinity and were voluble in their praises of the immense potatoes (one was alleged to weigh over two

pounds) which were then en route to the kitchen. Some of the tourists who seemed to be authorities on the subject of gardening averred that there are in Southern Ontario few vegetables that can equal those grown in Jacksonborough!

Supper (or was it evening dinner?) over, the education special set out for Cochrane. Here there was an informal reception in Lakeview Hall and a dance for those who wished to dance. For those otherwise inclined the enterprising members of the little Baptist Church had arranged an evening's entertainment. Between the two attractions the members of the party divided about equally and everybody was happy. Thus Wednesday of that historic week was over.

There were, as might be expected, some punsters in the party and this proclivity, in spite of well-meant efforts at suppression, broke out occasionally. For instance, the coaches were, of course, named, e.g., Bethlehem, Iona, Picador, Dundurn, etc. No. 6 was Dundurn. Wednesday evening one young man who had made himself responsible for the safe-conduct of three young ladies perpetrated the following as, breathless, he and the three girls just caught the train as it was about to start, "We *done durn* well to catch this car".

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Pruning Orchard Trees

Three lessons are necessary for the treatment of this topic by the nature study method.

The first of these is an observation lesson. This may be in the form of an excursion to a neighbouring orchard. In this case the observations are made under the direct supervision of the teacher. In many cases it will be found more feasible to assign to the pupils a number of observation exercises and allow them a week or longer in which to find answers.

The second lesson is one for the class-room. In this the observations made by the pupils are used as the basis for drawing inferences and formulating principles.

The third lesson consists in the practical application of the principles learned in the second lesson. This may be done by the teacher and pupil examining a tree and discussing how it should be pruned.

OBSERVATION EXERCISES FOR LESSON NO. 1.

1. Compare the colour and freedom from scab and also the quality of apples that grow in good exposure to sunshine with these qualities in apples that grow among dense foliage.

NOTE:—Apple picking time is best for this problem.

2. Examine a number of orchard trees to find whether there are:—

(*a*) Many dead or diseased branches.

(*b*) Many branches growing across the inside of the trees.

(*c*) Many branches that are shaded by others.

3. Examine trees (fruit or shade) from which branches have been cut. Note the ring callus that tends to cover the wound in each case. Do large wounds heal as completely as small ones?

4. Examine the surface of old wounds. Are there any evidences of decay?

In case any of the wounds had been painted find out whether the paint was a protection against decay.

5. Find the stumps of limbs that had been cut off an inch or more from the base of the limb. Are these stumps decaying? Does the decay tend to penetrate into the trunk?

6. Examine a tree that had been heavily pruned some time ago. Are there many new shoots (water sprouts)?

PLAN FOR THE CLASS-ROOM LESSON.

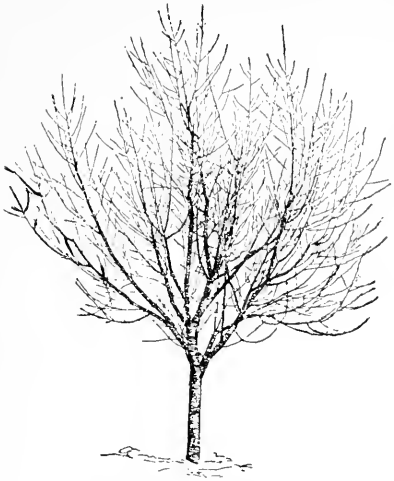
Purpose: To develop the principles of pruning and at the same time to train the pupils to draw correct inferences from their observations.

Introduction: Teacher exhibits a number of apples, some of which are well coloured, of good quality and free from scab. Others are of inferior quality.

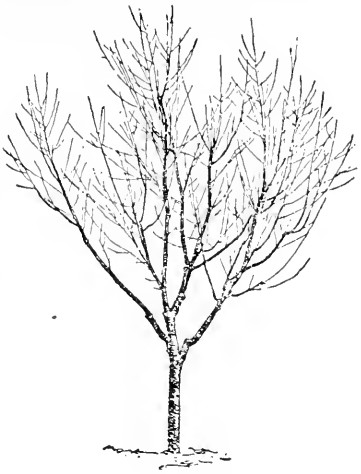
Then follows a brief discussion of the differences and of the cause of the differences, namely the different treatment of the trees.

Aim: To find how the trees must be treated to produce the best kind of fruit.

Matter	*Method*
	Refer to problem 1. Where did you find the finest apples? Where did you find the apples growing that had the most scab?
To admit sunshine and spray, prune to an open top.	Since sunshine is so helpful to the apples should the tree top be left close and dense or be pruned to a loose open form?

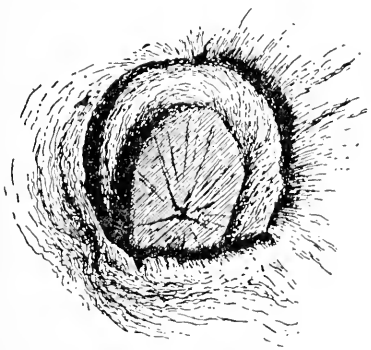


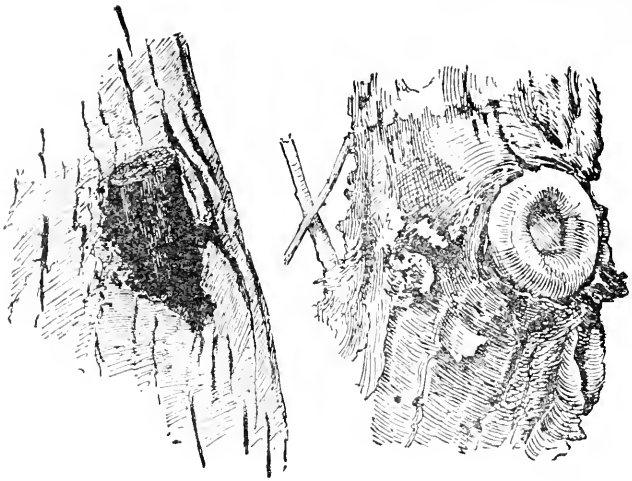
NEGLECTED PEACH TREE, Four Years' Set.



THE TREE PRUNED.

BAILEY: The Pruning Book.

Matter	*Method*
	Refer to problem 2. To secure an open top should these cross branches be removed? Will the open top prevent complete spraying or allow the spray to enter?
Pruning should be done regularly so that only small branches require to be removed.	Refer to problem 3. Describe how wounds caused by pruning heal. Do the large wounds heal as completely as the smaller? Hence, should pruning be done regularly and by the removal of small branches or should it be delayed until large branches require to be removed.
 HEALING OF A WOUND. BAILEY, L. H.: The Pruning Book.	Refer to problem 5. Does the stump which is left when a branch is cut off an inch or more from its base decay?



Improper Cutting of a Limb. Proper Cutting of a Limb.
Bailey: The Pruning Book.

Method	*Matter*
Cut the branch off as close as possible to its base.	Does this decay extend into the trunk? Does the scar made by cutting a branch off at its base heal? Hence what is the proper point at which to remove a branch?
	Refer to problem 4. Does the decay of dead limbs or the disease of limbs extend into the trunk?
Remove all dead and diseased branches.	Do painted wounds show as much tendency to decay as unpainted ones?
Paint all wounds using white lead paint that contains no turpentine.	Since decay of the trunk arises from the above causes, what must be done to lessen the danger?
	Teacher describes the kind of paint.
	Refer to problem 6. Do many water sprouts grow out of trees that have been heavily pruned?
Heavy pruning causes many water sprouts. Heavy pruning is a means of renewing the tree top and increases the growth of new wood. Do not prune too heavily. Cut off the unnecessary water sprouts in the early summer.	Should heavy pruning be useful for replacing old branches by new ones? Is heavy pruning likely to increase or to lessen the tendency of certain trees to grow too much wood? How should the tree be treated to check too much growth of water sprouts?

BLACKBOARD SUMMARY:—

Pruning improves the colour and quality of the fruit and lessens the damage by scab.

Prune regularly so that only small branches need be removed.

Cut close to the base of the branch.

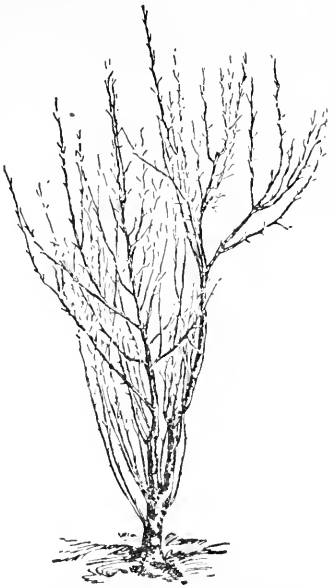
Paint all wounds.

Remove old dead branches.

Remove all diseased branches.

Remove cross branches and crowding branches.

Heavy pruning tends to increase growth of wood.



HEAVY PRUNING PRODUCES WOOD (IN THIS CASE A PROFUSION OF WATER-SPROUTS).
BAILEY, L. H.: The Pruning Book.

TO THE TEACHER:—

These principles of pruning which can be induced by the nature study method, while important and general are not without exceptions. In the case of the Wagner apple tree, for instance, an excessive growth of water sprouts does not follow heavy pruning and cross branches must be left in the case of the King apple tree, because this is in accordance with the natural habit of growth of this variety.

There are certain other important principles that have been learned from observations and experiences extending over long periods of time. Of these, the following may be noted:

Summer pruning lessens the tendency to produce wood and increases the number of fruit buds.

Winter pruning stimulates the growth of wood.

Fall pruning leaves no opportunity for the wound to become healed before the setting in of cold weather. Injury of the cells that produce the callus is very likely to be a result. For this reason fall pruning is not advisable in any part of Ontario, except the southern counties.

APPLICATION OF THE ABOVE LESSONS:—

The third lesson of the series, as has already been stated, is one demonstrating the principles learned in the second lesson. The teacher by discussing with the class the actual pruning of an apple tree and by helping them to decide what limbs should be removed and how these should be cut can make clear the meaning and application of the principles learned in the class-room. Examining the work of an experienced pruner is another means of giving practical value to the class-room lesson.

REFERENCES:—

Bailey, L. H.: *The Pruning Book.*

Fletcher, S. W.:—*How to Grow a Fruit Garden.*

Bulletin No. 248 Department of Agriculture. This bulletin can be obtained free from the Department of Agriculture, Parliament Buildings, Toronto.

A SCHOOL GARDEN OR HOME GARDEN EXPERIMENT DEMONSTRATING THE USE OF COMMERCIAL FERTILISERS TOGETHER WITH SUGGESTIONS FOR PRACTICAL ARITHMETIC PROBLEMS ARISING FROM THE EXPERIMENT.

Select a piece of ground having a uniform soil and having a uniform exposure to sun and wind. For convenience in making calculations the land should measure one one-hundredth of an acre or some multiple of this fraction. If the strip selected is 20 feet wide, how long must it be to contain one one-hundredth of an acre?

The pupils make the calculations and do the measuring. They also divide the strip into three plots of equal size (each plot will be 7′ 3¼″ x 20′).

Fertilize each plot with nitrate of soda, using the same quantity in each plot.

If 150 lbs. per acre is used, what weight must be used on each plot? The pupils make the calculation and do the weighing.

Fertilise plot No. 1 with muriate of potash using 250 lbs. per acre and plot No. 2 with a fertilizer consisting of muriate of potash 250 lbs. per acre, and acid phosphate 125 lbs.per acre. Plot No. 3 is given no fertilizer except the nitrate.

Plant mangels or sugar beets on all these plots, planting the same number of rows in each. Thin the plants to equal distances (12-16 inches) and cultivate all the plots in a similar way throughout the season.

Harvest the crop of each plot separately and carefully weigh it.

Calculate from this weight the yield in bushels per acre.

At the market price of the roots find how much more per acre the crop from No. 1 is worth than that from No. 3, and how much more per acre the crop from No. 2 is worth than that from No. 3.

From the data obtained, calculate the net profit or loss per acre resulting from the use of

(*a*) Muriate of potash.

(*b*) Acid phosphate and muriate of potash combined.

(*c*) Acid phosphate.

An actual experiment on growing sugar beets carried out in the Toronto Normal School garden gave the following results:—

Cost of potash fertiliser at 9 cts. per lb.....$22.50 per acre

Cost of phosphate fertiliser at 20 cts. per lb.....$25.50 per acre
Cost per acre of combined fertiliser.....$47.50

Increased yield from plot in which potash was used over that in which nitrate alone was used, 327.9 bushels per acre.

Increased value of crop per acre resulting from the use of potash, at the market value of 20 cts. per bushel, $65.58. Net profit per acre resulting from the use of potash $43.08.

Increase per acre of crop from plot fertilized with phosphate and potash over that from plot fertilised with potash, 26.3 bushels.

Increased value per acre at 20 cts. per bushel, $5.20.

Since the phosphate used on the plot cost $25.00 per acre, the net loss resulting from the use of the phosphate fertiliser was at the rate of $19.80 per acre.

The results of this experiment, supported by those of a somewhat similar experiment carried out the following year in a different part of the garden, proved that the soil of the garden is deficient in potash but that commercial phosphates cannot be used profitably upon it.

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

December Suggestions

CHRISTMAS is the children's day, and Santa Claus, the "fairy father" of childhood. It is important therefore in planning December's programme for little folks that every single child should have some part no matter how small.

A sand table is a great help in December. Represent a desert with an oasis. Palm trees, the camels resting in the shade of the trees by a spring, and one of the Wise Men, half kneeling, half sitting in the doorway of his tent that he has made from his rugs, tells the story of the Wise Men on their way. The camels and men may be toys or figures made from plasticine. A mixture of equal parts of corn starch and salt (coarse) mixed with water and slightly cooked makes very good figures.

The story of the Wise Men from "Ben Hur" told in connection with the sand table makes the work very effective and serves as a fitting introduction to the Story of the birth of Christ, Luke xi: 1-16. Incidently it carries much information about deserts, palm trees, Persian rugs and flat-roofed houses.

Other stories to tell are: The Story of the First Christmas, in Wiggin:

The Story Hour; Christmas Story, in Bryant: *How to tell Stories to Children;* The Good Shepherd, and The Legend of Babonscka, both in Bailey and Lewis: *For the Children's Hour;* How the Camel got His Hump, in Kipling: *Just-So Stories;* Why the Evergreen Trees Keep their Leaves in Winter, in Bryant: *How to Tell Stories;* The Discontented Fir Tree, in Griffin: *Daily Lesson Plans in English.*

PICTURES.—It has been well said that no man is a complete man who goes through life blind to beauty. If this is true, we cannot begin too early to teach the child to seek for the beautiful and to love it. What better way can we present the Christ story than through beautiful pictures? Excellent copies of the masters may be bought from The Perry Picture Co., Box 13, Malden, Mass

Bashfield: "Christmas Chimes"; Sichel: "Madonna and Child"; Bodenhausen: "Mother and Child"; Le Rolle: "Arrival of the Shepherds"; Hofmann: "The Worship of the Wise Men".

MUSIC.—Hymn-books have many beautiful hymns which are suitable for children.

The Columbia Co. have these records for Christmas. Vocal—58246 Silent Night, Holy Night; A 2373 The Star of Bethlehem, Nazareth; A 2391 Oh, Little Town of Bethlehem, While Shepherds Watched; A 2392 Medley of Christmas Carols.

Instrumental—A 2374 Santa Claus Patrol, Children's Frolic; A 1844, Christmas Morning, Toy Shop Symphony; A 2112 Christmas Bells, Christmas Melodies; A 2385 Hark! The Herald Angels Sing, Adeste Fideles; A 2644 Christmas Chimes, Cathedral Chimes.

The Victor Co. have the following: 60080 Toy Maker's Shop; 35350 Jest 'Fore Christmas (Eugene Field), The Dolls' Wooing, The Sugar Plum Tree; 35412 It came upon the Midnight Clear; 35418 Night before Christmas.

Besides these records both companies have many folk-dance records that might be used in making a programme. If the school does not own a phonograph perhaps one could be borrowed to help in the Christmas programme.

MEMORY GEMS.

"Not what we give
But what we share;
The gift without the giver is bare;
He gives but worthless gold
Who gives from sense of duty."

Christmas Entertainment Plays and Drills may be obtained from The Geo. M. Hendry Co., or from McKay, 615 Yonge St.. Toronto or from A. Flanagan Co., 521 So. Laflin St., Chicago, or from Beckley-Cardy Co., 17 East 23rd St., Chicago.

The following songs may be used at an entertainment. As Santa Claus enters, the children all sing:

1. "A jolly old fellow, whose hair is so white,
   And whose little bright eyes are blue,
   Will be making his visits on Christmas night,
   Perhaps he will call upon you.

2. A funny old name has this funny old man;
   You know what it is, without doubt;
   He creeps down the chimney as fast as he can,
   And then just as swiftly creeps out.

3. He carries a bag full of candies and toys,
   And leaves them wherever he goes,
   For the good little girls and the good little boys;
   So hang up your little white hose."

The following is a great favourite. We sing it to the tune of "Sing a song of Sixpence".

1. "Sing a song of Santa Claus,
   Dressed from head to toe
   In the warmest kind of clothes
   Made of fur you know.

2. Face as rosy as can be,
   Eyes that dance with glee,
   And a heart that beats for us,
   Beats for you and me.

3. Sing a song of Santa Claus,
   Don't you ask us why,
   If you are a real good child,
   He will never pass you by."

The Song of the Candles is another favourite. Sing it to the song of "The Five Little Chickadees".

1. Five little Christmas candles,
   Standing on the floor,
   Mary goes to bed with one,
   Then there are four.

2. Four little Christmas candles,
   Shining with glee,
   Tommy takes one up stairs,
   Then are are three.

3. Three little Christmas candles,
   Winking at you,
   Baby says, "I's sleepy,"
   Then there are two.

4. Two little Christmas candles,
Waiting for the sun,
Sister thinks, "It's time for bed,"
Then there is one.

5. One little Christmas candle,
Twinkling like a star,
Santa Claus will see it
As he comes from afar.

Five little children carry little candles and as each sings the verse they leave the platform. The last leaves the candle on the table for Santa.

GAME.—Children imitate toys while singing to the tune of "The Mulberry Bush (same tune as "Here we come, gathering nuts in May").

1. "This is the way we blow our horn,
Toot, Toot, Toot, Toot, Toot, Toot, Toot,
This is the way we blow our horn
So early Christmas morning.

2. This is the way we beat our drum,
Boom, boom, ————————."

The children can carry this on, endlessly.

A Doll Shop at Christmas time makes another good game. The characters representing various Mother Goose children are arranged as dolls and toys in the Doll Shop. A storekeeper dusts them, arranges them carefully and goes out. Music like "Peer Gynt" is played. A clock strikes twelve and a little fairy comes dancing in. She recites "The Toyman's Shop".

Oh, who will take a walk with me
The toyman's wonderful shop to see?
So many, many pretty toys
He has for little girls and boys,
The toyman's shop oh, ho! oh, ho!
That's where the children love to go."

The Fairy waves her wand and the dolls sway to music. The Fairy runs over and touches Bo-peep who sings,

"Little Bo-peep has lost her sheep,
And can't tell where to find them,
Leave them alone and they'll come home,
Wagging their tails behind them."

All the children sing this verse or the rest of the song. The Fairy touches the Sailor Doll who dances a Sailor Dance. The music for it might be "We sail the Ocean Blue" from Pinafore. The Fairy now persuades Jack Horner to sing "Little Jack Horner, Sat in a corner, Eating his Christmas pie. He stuck in his thumb, And pulled out a

plum And said "What a good boy am I". The Rag Doll sings the Alphabet Song to the following notes. Use the Key of C: *cc; gg; aa; g-; f, f; ee; dddd; c-; cc; gg; a-; g-; f-; e-; d-; c-.* (One letter is sung to each note beginning with *a, b* on *cc* and *c, d* on *g, g,* while *l, m, n, o* are sung faster to *d, d, d, d.*

The Baby Doll now makes herself known by crying and the Indian doll gives a war whoop. "Jack, be nimble" may jump over his candle several times and Mary Contrary may water her flowers while she sings her ditty. Little Miss Muffet may eat her curds and whey and the rest of the dolls will recite "Little Miss Muffet". The store keeper returns and sings a Good-Night lullaby to the dolls.

It is very simple for little children. The music for the rhymes may be found in *Nursery Rhymes,* Cassell & Co., Toronto, or *First Year Music,* Hollis Dann, American Book Co., New York.

Hints and Helps

Quotation for December:

'Tis the time of the year for the open hand,
And the tender heart and true,
When a rift of heaven has cleft the skies
And the saints are looking through.

—Margarte Sangster.

Game or Device.

The teacher whispers the name of some toy to a child. The child performs some act that the toy can do. The other children guess what toy he is representing. The first to answer correctly changes places with the first player.

Question: 1. *The children are weak in subtraction. Will you suggest some devices?*—Lanark County.

At first work with concrete things as nuts, blades of grass, seeds, sticks, etc. Take one table at a time and drill on it thoroughly.

For instance, take the table of 6. Give each child 6 sticks. Take one away. How many are left? Work through the whole table. Give them little mental problems as "Six birds were on the fence, 2 flew away. How many are left?

Ask them for little problems. Make picture stories in the board and cross out those to be taken away as : : Beside it write $6-2=4$. Draw cats, dishes, apples, chairs, bears, etc., in these picture stories.

Give them domino cards to tell the story about as $6-3=3$.

Flash large domino cards quickly before the class.

Give blackboard drills. Draw a ladder on the board. Call it 6. On the rungs place these numbers 3, 2, 4, 1, 5. The children give the answer

subtracting from 6 thus, 3, 4, 2, 5, 1. Draw a hill, call it 6 and have the numbers sleigh-riding down the hill. These devices add interest and the facts are learned quickly.

Write a long subtraction question on the board having 6 for the top number all along. At a given signal two children start at the ends. The one who reaches the middle mark wins the race. Many of the devices given for addition drills in previous copies of THE SCHOOL may be used in subtraction drills.

Question: 2. *Will you suggest a Christmas programme?* Some suggestions are given in the Primary Department of this issue of THE SCHOOL. Also refer to THE SCHOOL, December, 1916, 1919, and 1920.

Problem—A little six-year old boy came to his teacher last week greatly distressed. He said, "There is a boy on our street who says there is no Santa Claus". The teacher was puzzled to know what to answer for the little chap had such absolute faith in Santa Claus and faith in his teacher. The child's belief in Santa could not be destroyed. She then sought to emphasise the Santa Claus idea rather than the Santa Claus personality. The person will be lost as the years go by but the *spirit* may and should remain through life. The spirit of love and helpfulness and the blessedness of giving is the great thought for us all.

The Round Table

1. I want to teach my children—the boys to play rugby, football and baseball and the girls to play basketball. Could you give me information on these games? What are, and where would I get, the rules on them? Lastly are the rules different in the different leagues, as for example the American and International leagues, or are there standard rules to go by, and if so who are in authority to make or reconstruct them?

The accepted authority in Canada for the rules of football, baseball and all athletic games is the Amateur Athletic Union of Canada, These rules are, in general, those of the Amateur Athletic Association of the United States. These rules for the various games are to be found in Spalding's Athletic Library, a collection of little books costing, some 10 cents, some 25 cents each according to the game, and published by Spalding's Sporting Goods Ltd., Yonge Street, Toronto. The same rules hold in the different leagues that you mention. The Canadian game in Rugby is different from the American and in writing for that book you should mention that you want the rule book for the Canadian game.

2. Can you tell me what extracts are prescribed for memorisation for the second and third book classes?

No extracts are prescribed by regulation. The choice is left to the teacher or inspector. The following are recommended in a circular by Inspector Taylor of St. Thomas:

Selections for Memorization

"Excellent selections are given in the Literature Manual. Expressive oral recitation and accuracy in writing selections should be required of pupils.

Second—

Love—page 2.
The Land of Story Books—page 10.
Somebody's Mother—page 66.
Don't Kill the Birds—page 137.
Lullaby—page 155.
Haste Not, Rest Not.
The Lord is My Shepherd—page 203.
Abide With Me—page 218.

Junior Third—

A Farewell—page 59.
In the elder days of Art . . . . page 70.
One to every man . . . . page 71.
Love—page 98.
Burial of Sir John Moore—page 106.
The Charge of the Light Brigade—page 123.
Reading maketh a full man . . . . page 151.

Senior Third—

Never to tire . . . . page 173.
Break, Break, Break—page 201.
England's Dead—page 258.
Lead Kindly Light—page 315.
Crossing the Bar—page 346.
'Tis the Last Rose of Summer—page 269.
Wisdom the Supreme Prize—page 187.

Junior Fourth—

The Children's Song—page 1.
Love your country . . . . page 38.
A Hymn of Empire—page 75.
The Burial of Moses—page 80.
The quality of mercy . . . . page 89.
Afton Water—page 109.
Ye Mariners of England—page 154.
Oft in the Stilly Night—page 173.
The Spacious Firmament—page 205.

For Senior Fourth and Fifth—See Circular 58."

3. Could you supply dialogues, recitations, songs, suitable for a school concert at Christmas or tell me where I can get them?

The SCHOOL does not supply these. Information as to the second part of this question will be found in this issue of THE SCHOOL in the Primary Department.

4. Kindly give the solution of the following Algebraic problem.

Solve $3x + 5y = 4x^2 - 6y^2$ *(1)*

$2x + 12y = x^2 + y^2$ *(2)*

From the given equations construct a homogeneous equation by multiplication. Then $(3x+5y)(x^2+y^2) = (2x+12y)(4x^2-6y^2)$. On simplyfying we get $5x^3+43x^2y-15xy^2-77y^3=0$ or $(5x-7y)(x^2+10xy+11y^2)=0$. Therefore either $5x-7y=0$ or $x^2+10xy+11y^2=0$. Substituting $x=\frac{7}{5}y$ in (1) we get $y=5$ or 0 and therefore $x=7$ or 0.

From $x^2+10xy+11y^2=0$ we can obtain two other values of x in term of y. Where these are substituted in either of the given equations two other sets of roots will be obtained in which the root 0 will occur in each set. Finally there will be four sets of roots. If the cubic expression above can not be factored by inspection (or by trial) it would appear that the problem could not be solved by high school methods.

Making the Recess Periods Count

W. R. HOWARD, B.A.
The John Ross Robertson School, Toronto

PROBABLY one of the best methods of initiating a young boy into the art of being a good play-fellow is to start him in some such manner as that shown below. Here he is being taken into partner-

HORSE-BACK.

ship in what is to be his business for that stage of his life, namely, play. Here, senior boys—senior partners—are seeing to it that the juniors are experiencing companionship at their initiation. Full confidence in the other fellow is the key-note to comradeship. How this is exemplified in the faces of those in the picture!

Though thought to be too dangerous a form of recreation and so forbidden in many schools, such gatherings for "horse-back" are part of the regular programme of recess activities at the John Ross Robertson School. When organized and kept within bounds by the personal supervision of the teacher this should form a safe and sane form of recreation.

Many devices to give variety

The boy's first impulse is to start wrestling. It is his nature to want to match his strength and skill against that of others. When carefully watched by the teacher even this wrestling will prove anything but dangerous. Races, and relays in a great many varieties, as well as special games played "on horseback", all help to keep interest up and demand various degrees of skill on the part of "horse" and "rider".

Races

Horse-racing. 1. Trotting over straight away course of 25 or 50 yards.

2. Galloping over same course.

3. Horses stand at 25 yard mark. Riders run from the start to horses; mount and finish the other 25 yards at trot or gallop.

4. Gallop 25 yards. Rider dismounts, picks up stone or stick previously placed out and mounts; the gallop is continued to the 50 yard line.

5. Rider and horse change places at the 25 yard line and return to the start or they gallop or trot to the 50 yard line. Horse and rider should weigh about the same for this race.

6. Trotting or galloping over a circular course. The circle is marked off by having 20 or 30 boys join hands in a circle. The race should be run outside the circle. Not more than three horses should be run abreast unless the circle is larger or else the outside horse will have to cover a noticeably longer distance.

Mule-Racing

In this race the horse backs up with its rider and so acts like a mule that wants to back up the cart instead of pulling it. The distance should not be more than 10 or 15 yards owing to the danger of rider and horse tumbling.

Relays

Circle relays could be run like circle racing. Relay teams might consist of two, three, four or five horses depending upon the size of the circle and the number of

players available. The number one's of each team start and the other numbers are placed at stations around the track and start on only when touched by rider from the start.

2. Straight-away relays, with teams consisting of any number.

Games

"Tally-ho!" or "The Chase". This game is especially good when older boys are the horses and younger boys the riders. It consists in one rider, the master of the chase, shouting "Tally-ho!" as soon as the object of the chase, another horse and rider, representing the fox and one of its young, have had 20 yards start. Then all others gallop away on the chase. The rider who first touches the young fox or its mother has the privilege of starting the new chase as fox.

This game may be varied by having five or six horses with riders and the rest of those in the chase representing hounds. In this case there will be just one fox. In all cases the cries of the hounds might be imitated.

Wrestling

This might be engaged in by singles or by teams. A "fall" is obtained when a rider or horse is thrown.

Precautions. The teacher in charge should keep a careful watch when the boys are indulging in wrestling as accidents through carelessness might easily occur. Stones lying about the ground should of course all be cleared away. A fall on stones like those shown in the picture might mean injuries that would last a lifetime.

Seasons of the year for such play

The boys take to these activities in the cooler seasons, hence, they should be reserved for fall and winter. During the winter, snow forts might be the pivot about which these activities might swing.

Current Events

The Conference on Armaments

The world hailed with astonishment and wonder the bold and definite proposal offered at the very beginning of the Conference on the Limitation of Armament by Charles Evans Hughes, Secretary of State in President Harding's Cabinet, on behalf of the United States. He proposed, in brief, that Great Britain should scrap some 583,375 tons of fighting ships now in existence or under construction, that the United States should similarly scrap 845,740 tons and Japan 448,928

tons; that all three should postpone all further construction of battle ships for ten years and should then proceed to build, (if they built at all), subject to a maximum of capital ship tonnage to be limited in the case of Great Britain to 500,000 tons, United States 500,000 tons and Japan 300,000 tons.

Thus, under this plan, there would be immediately destroyed, of the navies of the three powers, 66 capital fighting ships built and building, with a total tonnage of 1,878,043.

It is proposed that it should be agreed by the United States, Great Britain and Japan that their navies, with respect to capital ships, within three months after the making of the agreement, shall consist of certain ships, designated in the proposal, and shall number, for the United States 18, for Great Britain 22, for Japan 10.

The tonnage of these ships would be as follows: Of the United States, 500,650; of Great Britain, 604,450; of Japan, 299,700. In reaching this result the age factor in the case of the respective navies has received appropriate consideration.

With respect to replacement, the United States proposes:

(1) That it be agreed that the first replacement tonnage shall not be laid down until ten years from the date of the agreement.

(2) That replacements be limited by an agreed maximum of capital ship tonnages as follows:

For the United States, 500,000 tons.

For Great Britain, 500,000 tons.

For Japan, 300,000 tons.

(3) That, subject to the ten-year limitation above fixed, and the maximum standard, capital ships may be replaced when they are 20 years old by new capital ships by construction.

(4) That no capital ship shall be built in replacement with a tonnage displacement of more than 35,000 tons.

Our previous experience of Peace Conventions, Hague tribunals and Leagues of Nations has naturally made us slow to believe that at last something substantial was about to be accomplished by way of international understandings that would really do away with the ruinous competition in armaments by land and sea that involved all Europe before the great war. Yet it is hard to doubt that one of the greatest steps toward international peace ever attempted is about to be taken. Already Great Britain, and Japan have agreed in principle to the proposals submitted by Mr. Hughes. The temper of the whole world on this matter should assure that it will not be impossible to agree on details. Once agreement has been reached on limitation of naval armaments, it is natural to suppose that land armaments will be next in discussion. All the world will follow with anxious hope the discussions at Washington.

A Collegiate Institute Time-Table

Monday and Wednesday

Form	9-9.45	-10.30	-10.35	-11.15	-12	1.30-2.10	-2.45	3.20	-4
IV	Latin	Algebra	Recess	Biology	History	English (Lit.)	Chemistry, Greek	Trig. (on Mon.) Geom. (on Wed.) Beginners' Greek	French
IIIB	Chem. Germ.	English (Lit.)	Recess	Algebra	Latin	History (B)	Geometry	French	Physics
IIIA	Study	Physics	Recess	English (Litr.)	Chemistry	Mathematics	French	History (B)	Latin
II	Arithmetic	English (Lit.)	Recess	Latin	Geometry	Physiog.	Art	Grammar	French
1B (T)	English (Lit.)	Latin	Recess	Geography	History	Algebra	Physl. Cult.	Botany	Grammar
1A	History	English (Lit.)	Recess	French	Grammar	Latin	Physl. Cult.	.....	Algebra
1C	.....	Jr. English (Lit.)	Recess	Sr. Hist. or Geog.	Jr. Hist. or Geog.	Grammar	.....	Sr. Physl. Cult.	.....

Tuesday and Thursday

Form	9-9.40	-10.15	-10.50	-10.55	-11.25	-12	1.30-2.10	-2.45	-3.20	-4
IV	Latin	Algebra	Geometry	Recess	Physics	Trigonometry	English (Comp.)	French	Phys. Cult.	Biology, Greek
IIIB	Physics, Germ.	English (Comp.)	Latin	Recess	Algebra	French	History (A)	Geometry	Phys. Cult.	English (Lit.)
IIIA	Study	Chemistry	German	Recess	Physl. Cult.	Physics	Mathematics	History (B)	English (Comp.)	.....
II	Arithmetic	English (Comp.)	Zool., Germ.	Recess	.....				Geometry	Art
1B (T)	English (Lit.)	Latin	Algebra	Recess	Grammar	Latin	Physiog.	Physl. Cult.	History	.....
1A	History	English (Lit.)	French	Recess	Latin	English (Comp.)	French	Botany	Physics	Algebra
1C	.....	Jr. English(Lit.)	Hist. (on Tu.) Physl. Cult. (on Th.)	Recess	Sr. English (Lit.)	English (Comp.) Sr. English (Comp.)	Grammar Grammar	.....	Sr. French	Jr. Physl. Cult.

Friday

Form	9-9.40	-10.15	-10.50	-10.55	-11.25	-12	1.30-2.10	-2.45	-3.20	-4
IV	Latin	Algebra	Geometry	Recess	Biol., Greek	History	English (Lit.)	Trigo. Phys.	Chemistry	French
IIIB	Chem. Germ.	English (Comp.)	Hist. (B)	Recess	Algebra	Latin	History (A)	French	Geometry	Physics
IIIA	Study	Chemistry	French	Recess	English (Lit.)	Physics	Mathematics	.....	English (Comp.)	Latin
II	Arithmetic	Latin	Zool.	Recess	English (Lit.)					
1B (T)	English (Comp.)	History	Geography	Recess	Physl. Cult.	Geometry	Physiog.	Physl.Cult.	French	Grammar
1A	History	English (Comp.)	Latin	Recess	Physl. Cult.	French	Algebra	Grammar	Latin	French (Extra)
1C	.....	Jr. English (Lit.)	Sr. Hist. or Geog.	Recess	.....	Algebra Jr. Hist.or Geog.	French Jr. French	.....	Grammar Jr. Physl. Cult.	..... Sr. French

High School Time-Tables

THROUGH the kindness of Mr. G. V. Maclean, Principal of the Napanee Collegiate Institute, the following time-table of an eight-master school is available. The following are noteworthy features of this programme: Monday and Wednesday, allotment is on eight-period divisions; on the other days, nine-period divisions as the crowded condition of the collegiate would not allow an eight-period on all days.

On Tuesday and Thursday are taken composition and physical culture. Friday is a balancing up of the other days of the week.

Form I-B—First year—General and Teachers.

Form I-A—First year—Matriculation.

Form I-C is the English part of the commercial room.

The time-table for the Commercial Form is not included in the above.

Form 3A—Third year pupils will write on English, Physics, Chemistry and History (B).

Form 3B—Fourth year pupils will write on Full Teachers and Pass Matriculation.

Form IV—Honour Matriculation and First Class Teachers.

Form IB—will write on Botany, Geography, Grammar, History.

The teachers of English correct the essays, as far as possible, in the Composition classes.

Principals of smaller high schools will find much of interest in the following suggestions offered by Inspectors Mills and Hoag to teachers in Grade B (two-teacher) Continuation Schools, to assist them in constructing programmes for 1921-22. They drew attention to the fact that pupils who have completed the work of Form I and have been regularly promoted to Form II will not be required to take an examination in Canadian History or Geography in 1922. There will be no Departmental examination in Reading, Writing or Spelling for the Lower School.

SUGGESTIONS RE TIME-TABLES FOR 1921-22

Continuation Schools—Grade B—Two-Teacher

(*a*) 11 teaching periods daily: 9-10.30 a.m., 3 periods; 10.45-12 m., 3 periods; 1.15 or 1.30-2.45 p.m., 3 periods; 3.00-4.00 p.m., 2 periods.

(*b*) Physical Culture daily at intermission for 15 minutes; sexes taken separately.

(*c*) Forms I and II may be taken together in English, Botany and either Grammar or Art (if Grammar is chosen, interchange the names Grammar and Art in the tables below).

(*d*) Work in study periods should be supervised and no careless work permitted.

(*e*) Reading will be part of the work in English.

(*f*) Spelling and Writing will be considered important in all work in all subjects.

GRADE B—TWO TEACHER SCHOOL

FORMS I AND II ARE TAKEN TOGETHER IN SOME SUBJECTS

Subject.	Form I		Form II		Forms I and II together			Form III	
	Teach.	Study	Teach.	Study	Teach.	Study I	Study II	Teach.	Study
English	..	..	..	..	6	3	2	6	1
Can. History	4	2	..	..	..	..	..	..	..
Physiography	..	..	5	1	..	..	..	..	..
Algebra	4	3	..	..	..	..	..	5	1
Geometry	..	..	5	1	..	..	..	5	1
Arithmetic	..	..	5	1	..	..	..	..	..
Grammar	..	..	4	1	..	..	..	..	..
Art	..	..	..	..	5	3	..	..	..
Geography	4	2	..	..	..	..	..	..	..
Botany	..	..	..	..	4	3	..	..	..
Zoology	..	..	4	1	..	..	..	..	..
Physics	..	..	..	..	..	..	..	5	2
Chemistry	..	..	..	..	..	..	..	5	1
Br. History	..	..	..	..	..	..	..	3	..
An. History	..	..	..	..	..	..	..	4	1
Latin	4	2	4	1	..	..	..	6	2
French	4	2	4	1	..	..	..	5	2
ALL FORMS TAKEN SEPARATELY IN ALL CLASSES									
English	6	3	5	2				6	2
Can. History	4	2	..	..				..	..
Physiogrpahy	..	..	4	2				..	..
Algebra	4	3	..	..				4	2
Geometry	..	..	4	2				4	2
Arithmetic	..	..	4	1				..	..
Grammar	..	..	3	..				..	..
Art	4	3	3	3				..	..
Geography	3	2	..	..				..	..
Botany	4	3	3	2				..	..
Zoology	..	..	3	2				..	..
Physics	..	..	..	..				5	2
Chemistry	..	..	..	..				5	1
Br. History	..	..	..	..				3	1
An. History	..	..	..	..				3	1
Latin	4	3	4	2				5	2
French	4	3	4	2				5	2

(*g*) After pupils of Form II have made a fair start in their Geometry, a part of the time for Geometry of that Form may be devoted to Algebra in order that the work of the Lower School course begun in Form I may be completed.

(*h*) Pupils not taking Latin or French will have much more time than shown in the tables for study in the class room.

High School Physiography

GEO. A. CORNISH, B.A.
Ontario College of Education

I. The Colours of the Sky and Haloes.

IT is proposed to write a series of articles to deal with some of the newer topics in physiography. An attempt will be made especially to show how the experimental work can be correlated with the physiography. Have pupils make the following observations and perform the following experiments:

The Colours of the Sky

On a day in which the air is clear and the sky is cloudless, observe the colours of the sky and record answers to the following questions: What is the colour of the greater part of the sky? What is the colour of the sun? What is the colour of the sky near the horizon? What is the colour of the sky near the sun?

On an evening when the sky is cloudless observe from an elevated position the sunset colours. Notice the different colours the sun assumes as it approaches the horizon. Describe the different colours of the part of the sky near the sun. What is the shape and size of the brilliantly coloured region around the setting sun? How far east and west does the brilliantly coloured region near the sun extend? Observe the changes in the sunset colours until they fade in the darkness. Describe the sunset colours near the eastern horizon. In a similar manner describe the sunrise colours.

Sometimes a ring is seen around the sun or moon. When such a ring is present notice whether it is partly coloured, whether the colour is on the outside or on the inside of the ring, what distance the ring is from the sun or moon, and whether at the time the ring is seen, the sky is clear, hazy, or cloudy.

The Composition of Sunlight

Pass a narrow beam of sunlight or a parallel beam from a lantern through a triangular glass prism on to a white screen. What is the colour of the light before it enters the prism? What are the colours of the light after it has passed through the prism? Of what colours must light be composed?

The Effect of small Particles on Light

In a rectangular glass vessel place a clear solution of sodium thiosulphate. A beam of light from the lantern is then passed through the water and is received as a bright circle of light in a mirror. The mirror is so inclined that the bright circle of light can be observed by the pupils. When the room is darkened observe the colours of the beam of light in the water and of the bright circle of light in the mirror. Then pour a few cubic centimetres of sulphuric acid into the solution and stir the mixture thoroughly. Observe the changes in colour of the beam of light as it passes through the liquid and of the bright circle in the mirror.

Dust

Dust may be regarded as an impurity of the air, yet it is present in all parts of the lower atmosphere. Dust particles are not numerous above the sea or above snow-capped mountain tops, but in the air of cities there are hundreds of thousands in a single cubic centimetre. Dust is composed partly of rock particles raised from the dry earth by the wind, partly of the spores of plants, partly of the salt from evaporated sea spray, and partly of smoke. The last is the chief cause of dust. The number of particles poured into the air from chimneys is beyond calculation, as one puff of smoke from a cigarette contains four thousand million dust particles.

It might be supposed that the dust in the air is nothing but a nuisance to be got rid of, but such is not the case, as it adds much to the pleasure of life. It is about dust particles that the moisture in clouds condenses. Almost every rain-drop has a dust particle as a nucleus. If there were no dust in the air the beautiful blue of the sky would be replaced by an inky black, studded with stars by day as well as by night, the gorgeous colours that are the glory of sunrise and sunset would be absent, and many other phenomena that give beauty and colour to the sky would be missing. The organic matter in the dust, composed largely of the spores of bacteria and other fungi, should not be considered harmful to health and happiness. While some of the bacteria cause disease the larger proportion perform useful functions. They give the characteristic flavours to cheese, butter, and other important food products, they convert the nitrogen of the air into substances that can be utilised as

food for the higher plants, and by promoting decay, they clear away from the earth and water, plant and animal refuse.

Nature of the Sun's Light

If a stone is dropped into a vessel of water, waves move in succession along the surface of the water from the point of contact to the edge of the vessel. In a similar way light travels from the sun to the earth in waves. The medium through which these waves are supposed to travel is called the *luminiferous ether*, which is believed to occupy all space. Just as the dropping of the stone excites waves in the water; so the vibrations of the heated matter of the sun produce waves in the ether, and like the waves in water they travel very rapidly outward in all directions. If certain of these waves enter the eye they produce a sensation of colour. If a narrow beam of sunlight is passed through a glass triangle a remarkable change takes place in the beam; it bends from the line in which it has been travelling; and some parts of it bend more than others. As a result the beam becomes wider; and if the widened beam is received on a screen it forms a coloured band of light. This band, called a spectrum, is composed of the colours of the rainbow: red, orange, yellow, green, blue, and violet. The glass triangle has separated the light waves by bending or refracting some more than others. The coloured band shows that the least refracted waves produce the colour red, the most refracted blue and violet. The waves producing the red light are the longest, those producing the blue the shortest, and the size of the waves producing the other colours are in the order in which these colours stand in the spectrum. Hence it is clear that the longer the waves the less they are refracted in passing through the prism.

The Blue of the Sky

If the colour of the sky is observed during the day when the air is clear and clouds are absent, it will be noticed that it is a deep blue overhead, but becomes whiter toward the horizon and also toward the sun. It was at one time thought that the blue of the sky was due to the colour of the gases that compose the air, just as the blue of the ocean is due to the colour of ocean water. But it can be easily shown that the air is not blue in colour. The depth of air in a line drawn horizontally from a place to the outer limit of the atmosphere is much greater than in a line drawn to the zenith, and if the air itself is blue, the sky near the horizon should be a deeper blue than near the zenith. But the reverse of this is true.

When water waves strike objects they are affected in one or two ways. If the object is small in size compared with the wave, the latter flows around the object and continues on its course little affected. If the object is somewhat larger than the wave, the latter may not pass

onward but it may be reflected and scattered. Dust particles have a similar effect upon the light waves of the sun. The shorter waves (green, blue, and violet) are scattered in the main laterally, and only a small portion pass onward, while the longer ones (red, orange, and yellow) continue their course in almost full strength. If the sun's light is passed through a vessel of water containing very fine particles in suspension, the water, when viewed from the side, appears light blue, owing to the scattering of these rays by the particles; while the source of light when viewed through the water appears yellow, orange, or red, according to how completely the shorter waves have been scattered. In a similar way the sun's light has its short waves scattered by the dust particles in the air, and these scattered rays on reaching the eyè, cause the sky to appear blue.

The Sunset Colours

As the sun approaches the horizon on a cloudless afternoon, the western sky glows with brilliant colours, which persist after the sun has set and only fade away in the twilight. At the centre of the sunset arch and near the sun, the colour of the sky is silver, while a short distance from the centre the colour is a glowing yellow. Farther still from the centre the colour is a delicate pink or purple rose, which gradually merges into the blue of the sky. The arch is greatly prolonged east and west near the horizon. As twilight advances the colours grow fainter and become more suffused with red, and any clouds in the vicinity have their margins edged with the same brilliant tint. The eastern horizon shows an arch of the same colours as that in the west, but much fainter. As the sun sinks the eastern arch rises, and as it does so, becomes very faint and soon disappears. Since the sun loses its brilliancy as it approaches the horizon, the eye can then look at it directly. It passes through the same series of colours as the adjacent sky and finally sets as a crimson sphere.

In order to reach the earth the rays of light must penetrate a greater depth of air when the sun is near the horizon than when it is high in the sky. In fact to reach the earth the rays from the setting sun penetrate a stratum of air thirty-five times as deep as that penetrated by the vertical rays from the sun at noon. Moreover ,a great part of the stratum of air through which the horizontal light passes is near the surface of the earth and consequently, contains many more dust particles than does the purer upper air. Since the light coming from the setting sun and the adjoining parts of the sky has its short rays scattered by this thick stratum of dusty air, only the long rays (red, orange, and yellow) reach the eye. Consequently the sun and adjoining parts of the sky show these brilliant colours at sunset.

Haloes

Haloes are due to ice crystals in the air. If a cloud composed of ice crystals is between the sun or moon and the eye some of the parallel beams from these bodies after being reflected through these crystals enter the eye. The ice crystals are hexagonal prisms and the rays that produce the haloes pass in through one face of the prism and pass out through the next face but one. This bends them exactly the same as would an equilaterial triangle prism. As some of these prisms are turned in every direction the light will be deviated from the sun the same amount in every direction and thus form a circle of light. The light is concentrated in a narrow ring on account of the light passing through being the greatest at minimum deviation. If lines join any point in this circle and the sun to your eye they subtend an angle of about 22°.

An Exercise in Grammatical Analysis

MISS M. F. LIBBY, B.A.
Belleville High School

But soon as Luke, full ten years old, could stand
Against the mountain blasts, and to the heights,
Not fearing toil, nor length of weary ways,
He and his father daily went, and they
Were as companions, why should I relate
That objects which the shepherd loved before
Were dearer now? that from the boy there came
Feelings and emanations—things which were
Light to the sun and music to the wind;
And that the old man's heart seemed born again?

Make a list of the finite verbs in the passage: could stand, went, were, should relate, loved, were, came, were, and seemed. Next get the clauses of which they are the verbs:

1. But soon as Luke full ten years old could stand against the mountain blasts,
2. And (soon as) he and his father daily went to the heights, not fearing toil, nor length of weary ways.
3. And (soon as) they were as companions.
4. Why should I relate,
5. That objects were dearer now
6. Which the shepherd loved before,
7. That there came feelings and emanations from the boy—things
8. Which were light to the sun and music to the wind;
9. And that the old man's heart seemed born again?

Pick out the principal clause: "Why should I relate" (4). (Note the rhetorical interrogative form of the clause). Then the three noun

clauses, objects of *relate* (nos. 5, 7, 9). Then there is the little adjectival clause modifying *objects* in 5 (no. 6), and also the adjectival clause modifying *things* in 7 (no. 8), and the three adverbial clauses starting "soon as" modifying 5, 7, 9 (nos. 1, 2, 3).

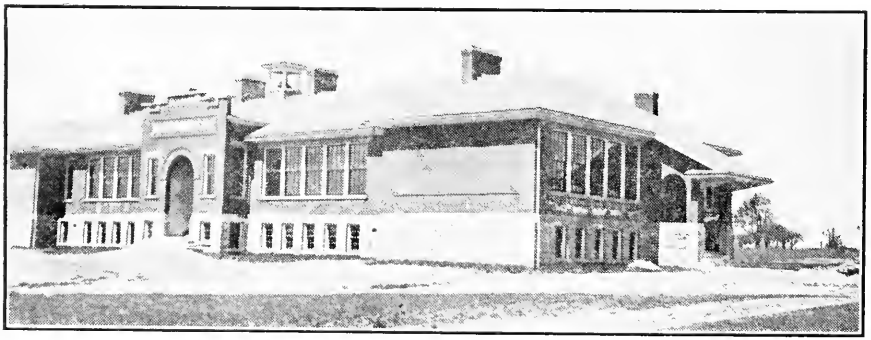
After that note the words of special interest: *but* joining the whole passage to a preceding part not given here; *soon as*, the full form being *as soon as*, a conjunction joining the dep. adv. clauses to the three noun clauses; *full*, poetical for *fully* mod. *ten*; *years* used as an adverb mod. *old; mountain*, another noun used as an adjective, this time to mod. *blasts; fearing*, a present participle partly verb, with the objects *toil* and *length*, and partly adjective mod. *boy, as*, a mere particle, no part of speech, really redundant (they were as those would be who are companions); *things*, in apposition with *feelings* and *emanations*, and so modifying those words; *born* completing *seemed* and modifying *heart*. And so on.

Keep before their minds that the relation of a word is always to another part of its own clause, that a word in English is the part of speech it does the work of, and that there are only nine relations that words can have.

From the Board's Point of View

A Consolidated School

THE first consolidated school east of Toronto was officially opened on September 5th by the Hon. R. H. Grant, Minister of Education, at Mallorytown. The building, erected at a cost of $45,000 is 150 feet in length by 68 feet in breadth. There are four large classrooms. At the request of The School, Inspector Dowsley, to whose energy and initiative the success of the scheme is largely due, has con-



THE CONSOLIDATED SCHOOL AT MALLORYTOWN
Courtesy of *The Farmers' Advocate*, London, Ont.

tributed the following brief account of the development and prospects of this consolidation:

"When the new Consolidated School Act was passed, I planned three meetings with School Boards, only at three points which I considered suitable centres for such a school. Its advantages were explained to the twelve or fifteen trustees whose sections were concerned and they were asked to state their wishes as to whether fuller information was desirable. Two of the three informal meetings voted for further consideration of the proposal and Dr. Waugh, Chief Inspector; W. J. Chisholm, M.A., Assistant Chief Inspector, and Dr. Sinclair were the speakers at the subsequent meetings. That at Mallorytown had a particularly good representation of ratepayers, several of whom spoke favourably of the Consolidated idea. Not long after (June 1919) preparations were made to take the test vote in the four sections involved, beginning with the outside schools and culminating at the central or Mallorytown school, a two-teacher one. Dr. S. B. Sinclair was the Departmental representative, and in the outside sections only three or four votes were against the scheme. The final meeting at Mallorytown was a very representative one, quite a number from the outside sections attending to learn the outcome. The vote was unanimously favourable and the Consolidation was consummated. I might add that adjacent sections made no question as to the strategic centre for the school as all roads leading therefrom converge at Mallorytown village which is situated on the main line of the G.T.R. and is a natural community centre.

A few weeks later a Board of trustees (five in number) was elected to supersede those in the several sections, and the selection of a site for the new school was the next step. A seven acre field gently sloping southward to the Provincial Road was chosen. Mallorytown is a straggling village and this field with its fine school now fills the gap between the eastern and western portions and is peculiarly accessible to the outside sections.

After the type of building had been decided upon at a special meeting of the Board, an architect (B. J. Dillon, Brockville) prepared plans for a four-room, one-storey, brick school over a basement containing Household Science, Agriculture or Manual Training rooms, furnace, fuel and store rooms, as well as a corridor throughout.

Four well lighted class rooms (one quarter of floor space) with cloak room for each, lavatories, male and female teachers' rooms, store rooms, and corridor throughout, compose the main floor. The lighting of every room is abundant and whether the building is viewed from front, ends, or rear, neglect on that score cannot well be charged. Effective ventilation is provided for all class rooms, cloak rooms, toilets, etc., by chimneys of exceptional size yet comporting well with the extensive proportions of the building which measures about 150 ft. in length and 58 ft. at the

ends. Main and rear, as well as end entrances give easy access to all parts.

The abnormal building conditions obtaining during 1920 increased the cost much over the estimate of the architect, but the Board never wavered in their determination to complete properly the task set them to perform. Progress was comparatively slow owing to occasional scarcity of building supplies, and an attempt to open the school was not made until this fall.

The occasion was graced by the presence of Hon. R. H. Grant, Minister of Education; Dr. John Waugh, Chief Inspector of Schools; Dr. S. B. Sinclair, Inspector of Auxiliary Classes, all of whom expressed themselves as pleased with the prospect of the venture. Several public men, as well as local clergy, felicitated the Board and the people on their educational innovation. The Women's Institute served refreshments to the large crowd present from the Consolidated area and surrounding districts.

Three vans bring the children from outside sections over routes varying from three to about five miles in length, and these from all accounts, are operating with eminent satisfaction. It is early to predict the success of this school, but incidentally reports have already reached me that children, whose parents found great difficulty in inducing them to go to the small schools of the outside sections, are now keen to attend because of the greater opportunities to play, the graded class system provided, the more attractive surroundings, and last, but not least, the convenient and quick transportation with its good comradeship. Again, I am told that some who opposed the proposal now frankly admit the feasibility and apparent success of it.

While the Board's chief concern for the first year of this school's operation was, to organize a smoothly working transportation system and provide good tuition in the purely public school studies, nineteen Fifth Form pupils have enrolled and are being taught High School subjects. Another year when a fourth teacher is added to the staff, more adequate service in this respect will be possible. The bringing of H. S. opportunities nearer the doors of the rural homes should do much to vindicate Consolidation to the minds of the ratepayers. The cost will be greater but many a ratepayer will get his increased taxes back in this way. Increased taxes are due to building cost, but, if from the total is deducted government assistance, the cost under normal building conditions is no greater than that of building new schools in the several sections concerned. All needed new schools, but the difficulty in most rural communities is to persuade them that the school of their grandfathers is not good enough for children of to-day.

Operation costs at present are little, if any, greater than under the

old system of four schools with five teachers. The bogey of excessive transportation costs was laid low when satisfactory tenders for the three routes totalled but $1,365, one-third at least of which is the government's share. The balance or Board's share is more than met by the apparent saving in teachers' salaries, which total $3,600 for 3 teachers as against a probable $4,500 for five teachers under the old system.

A hot lunch is being planned for all pupils transported. A large Household Science room is available and one teacher is qualified. The two others are qualified in Agriculture, the Principal, a young man, holds a First Class certificate. Enrollment at present is 105.

In my judgment the small consolidation of four or five schools is preferable to the large one where transportation distances may imperil the success or popularity of the scheme, but building costs in such a case should be kept within reasonable proportions.

I know not the origin of the picture you propose to publish, but it gives a very fair idea of the building. Drives have since been made and the grounds have been much improved. By ornamentation with trees, shrubs, flowers, and well-kept grass plots, we hope to make this school a notable success for its aesthetic as well as its educational features."

The University of Oxford, England, long elected its members of Parliament, not by ballot, but by oral or *viva voce* vote. In 1865 Mr. Gladstone, who had sat for the University for several years, was again a candidate. A humourous incident of the poll is thus described by George W. E. Russell, the author of *One Look Back.*

Henry Smith, Professor of Geometry, was, I suppose, the most accomplished man of his time; yet he lives in our memory, not by his extraordinary performances in the unthinkable sphere of metaphysical mathematics, but by his intervention at Gladstones' last contest for the University. Those were the days of open voting, and Professor Smith was watching the vote in Gladstone's interest.

A certain professor, who could never manage his "H's", wished to vote for the Tory candidates, Sir William Heathcote and Mr. Gathorne Hardy, but he lost his head, and said, "I vote for Glad—" Then, suddenly correcting himself, he excalimed, "I mean for 'Eathcote and 'Ardy".

Thereupon Smith said: "I claim that vote for Gladstone".

"But", said the vice-chancellor, "the voter did not finish your candidate's name".

"That is true", said Smith, "but he did not even begin the other two".

A little Scotch laddie, wee Willie Macgregor, returned home after his first day at school.

When his father came back from work that evening he asked the young scholar what he had learned.

"I learned to say, 'Yes, ma'am,' and 'No, sir," to me mither and feyther," replied the boy.

"Did you indeed!" said the father.

"Aye," responded Willie.—*Pearson's Weekly (London).*

Grandview School Garden

REBA C. FYLE
Grandview, Ont.

WE have had school gardens in our school for four years. We have a square plot of ground containing about half an acre. This we divide into twenty-four plots which measure nearly thirty feet by twenty feet. Usually two pupils work a plot but they do not divide the plot until they begin to harvest the crop.

When we began gardening we had no regularly qualified teacher in the school and our intention was to teach the children how to make a garden that would delight the eye, as well as yield valuable products for the table, and thus make the pupils better homemakers. I think we

THE SCHOOL GARDEN, GRANDVIEW, ONT.

have accomplished this and much more, for the pupils have learned to measure small plots of ground, and to work together harmoniously; they have learned how seeds sprout and the value of birds, and they also know many destructive weeds and insects, and how to eradicate them.

In planting our garden, we have a number of strong lines that the pupils stretch across the width of the entire garden, then all the children plant the same kind of seed at the same time; when that is done the lines are moved the proper distance and another kind of seed is planted. This is continued until the whole garden is planted. Of course this is not all done in one day. The early vegetables are planted first, and it is usually two weeks or more before we finish planting. This way of

planting a school garden has advantages. The children learn to work together, the slow pupils learn speed, the quick pupils often help the slow ones, and thus learn to be kind and helpful, and the garden has the appearance of one large garden with long, straight rows of vegetables, very pleasing to passers-by.

Although our soil is very light, by using fertilizers we raise excellent products, and the children learn the relative values of the different fertilizers used. I might add we never allow a weed to remain in the garden. Before school closes we hold a picnic; the gardens are judged and prizes given for the best gardens. In the month of September we hold a "fair" and prizes are awarded for the best products of the garden, or for any other work done by the pupils.

An Appreciation

H. W. Huntly, M.A., president of the Manitoba Teachers' Federation, is one of the strong men in the ranks of the teaching profession in Western Canada. Few teachers in Manitoba of late years have been so much in the limelight, and none have stood the test better. We look forward for great things from him in the cause of public education in Manitoba as the years go by. In fact, he has already done great things for the profession; his experience and training lead us to anticipate even greater.

H. W. HUNTLY, M.A.
President of the Manitoba Teachers' Federation

Mr. Huntly comes from the little province of Prince Edward Island. He was born on a farm at Vernon on August 26th, 1880, was educated at the village school and then at Prince of Wales College, Charlottetown, graduating with a first class teachers' license in 1901. He was principal of the Vernon River Intermediate School for two years and then went to McGill University, where he graduated in 1907. Whilst at McGill he took first-class honours in Mathematics and Science. His university course was a distinguished one.

He turned to teaching again,

and was principal of the Cookshire Academy for two years. Returning to McGill in 1910, he took the master's degree in education and psychology. Whilst at McGill this time he was president of the Prince Edward Island Club of that institution. During 1910 and 1911 he was at Harvard University, studying psychology and the science of education under the direction of the celebrated Professor Paul Hanus.

Then came the call of the West, and Mr. Huntly arrived in the autumn of 1911 to take the principalship of the Melita High School. He occupied that position for two years and then joined the Winnipeg staff as science master. For the last two years he has been principal of the night school at St. John's Technical, a position which he has discharged with unusual ability.

In recent years, however, Mr. Huntly has become better known through his work with the Manitoba Teachers' Federation. In 1918 when the organization was launched, he was on the original committee of five which brought the M.T.F. into being. Since that time he has served continuously on the executive. During the past two years he has been its president. It is but just to say that a large measure of the success of the Manitoba Teachers' Federation is due to Mr. Huntly. He has not been sparing with his energy and time when the teachers' problems were concerned.

For two years he has been vice-president of the Canadian Teachers' Federation and is one of the hardest workers in the organization.

Mr. Huntly is a man of rare attainments and unusual abilities. As a public speaker he is cautious, clear and incisive, and yet he can be bold and aggressive. As a debater, he is very fair, but is a most vigorous opponent who does not mince matters. The cares and responsibilities of office have softened down much of his former restlessness and impetuosity, and he is now looked upon by the teachers generally as a very sane and careful adviser. His talents for organization have developed with his office, and he is now often spoken of as being one of the shrewdest teachers we have in the province. He is very approachable, and the timid teacher with doubts and difficulties perplexing him always finds H. W. H. a really good friend.

In matters of arbitration, and of these he has had a generous share, he is eminently fair, and trustees as well as teachers have learned that he is a friend first and last of the best interests of education in Manitoba.

His most intimate friends bear testimony of his earnestness and disinterestedness, to his consuming desire to help the teacher better himself and his profession, and to his joy in having some little part to play in making Canadian schools the best in the world.

E. K. Marshall.

Christmas in "Glory Hole"

DR. J. T. M. ANDERSON

Note—"Glory Hole" was an expression used in the army to designate a very difficult situation during a battle. He who emerged from such a position usually won a decoration. When this young teacher, who had won a military Cross in Flanders, took charge of the above school last spring, his wife, who had served overseas as a nurse, exclaimed as she opened the door of the miserable little shack in which they were to live "A regular 'Glory Hole'". As a coincidence it turned out that the Ruthenian name of the school, when translated into English, meant "Glory". Later the trustees provided a very comfortable teacher's cottage. If it were customary to decorate those teachers who go into difficult positions and introduce something of our Canadian life, this young man and his good wife would surely receive recognition, for they have truly transformed this little prairie "Glory Hole", and now we find there one of the most efficient rural schools in the province.

Teacher writes to Dr. Anderson as follows:

We held the first Xmas entertainment in the history of the school district on Xmas eve this year. All the children on the roll are Ruthenians and everyone was present in spite of the severe weather. Early in the morning we contemplated putting off the treat, but after hastily 'phoning around we found all the families intended coming.

The children had been told not to come before 1.30 p.m. but many arrived an hour and even two hours before this. Immediately upon arrival they all stalked up to the tree and just gazed at it,—some saying they had never seen one before. Decorated with tinsel and lighted candles, the branches thickly strewn with crackers and presents, the tree certainly looked very pretty.

After a few games we all had tea and cakes,—then more games. During one of these games the teacher caused cries of indignation because with his long legs he was able to step over the "twirling trencher" instead of going around it.

At four o'clock the concert commenced and was a huge success. The children gave their items without a hitch and thoroughly enjoyed the other items provided by outside friends. At the end of the programme the school sang a song "Waiting for Santa Claus" and although they broke off their song and greeted him with a rousing cheer as he came through the doorway, they regarded him with a certain amount of superstitious awe. Peter, our youngest scholar, flew from the platform to his mother's arms, but when the bigger sister Annie was induced to shake hands with Santa, Peter soon wished to do likewise. It was not long before he was trying to find out Santa's identity.

Excitement ran high while Santa was loading the little boys and

girls with presents from his sack. Each child received five presents and the top boy or girl of each grade an extra one. Some of the children asked "Santa" to come again next Xmas and after promising to do so he was allowed to depart. After this we sang "God Save the King" and prepared to disperse but to our intense pleasure we found old Santa had not forgotten the teacher and his wife. A father of some of the pupils came shyly up to the platform and presented us each with a very nice silk handkerchief and Xmas card.

As we walked across to the house we could hear in the distance from all sides "They say there is milk in our coffee" "They say there is milk in our tea" to the tune of "My bonnie lies over the Ocean" and we felt well pleased with our seven months in the "Glory Hole".

Degrees in Pedagogy—II

History of Education in Modern Times

A. A STUDY OF MODERN TENDENCIES IN THEORY AND PRACTICE, ESPECIALLY IN THE 19TH CENTURY.

GENERAL surveys will be found in Monroe—*Text-book in the History of Education*, chapters X-XVI, and for the Elementary School in Parker—*History of Modern Elementary Education.* Part IV. See also Adams—*Development of Educational Theory.* Good source books are: Green—*Pestalozzi's Educational Writings* and Fletcher and Welton—*Froebel's Chief Educational Writings*, or Herford—*The Students' Froebel.* They have good introductory summaries. First hand acquaintance with the works of these writers and of Herbart should be sought. See Herbart—*Outlines of Educational Doctrine.* An easy introduction to Herbartian theory may be found in Adams—*Herbartian Psychology applied to Education.* Everyone will, of course, read Pestalozzi's—"*Leonard and Gertrude*", and selected passages from "*How Gertrude Teaches her Children*" particularly 6 and 7. Salmon—*Life of Joseph Lancaster* shows a point of view and a practice not restricted to England.

For the influence of science on the curriculum, see Spencer Herbert—*Education;* Huxley, in *Science and Education*, chapter on a Liberal Education; Matthew Arnold, *Discourses in America*, chapter on Literature and Science. For the background see Sidgwick, W. T. and Tyler, H. W.—*A Short History of Science.*

Cubberley—*Changing Conceptions of Education* and Dewey—*Democracy and Education* reflect the later phases.

B. Development of Modern Educational Systems.

The article, Education; Part II, National Systems of Education, in the *Encyclopedia Britannica* contains a good summary. This ground is covered also, more fully, both for England and the United States in Cubberley—"*The History of Education*", Part IV. For illustrative purposes much interesting material may be found in Cubberley—*Readings in the History of Education.* For England, Birchenough—*History of Elementary Education in England and Wales*, or Holman—*English National Education* covers fully the ground in Elementary Education. For educational legislation, Balfour—*Educational Systems of Great Britain and Ireland* is authoritative and very useful for reference. See especially, the Introduction and pages 1-45, and 143-183, second edition. For Secondary Education in England, Archer—*Secondary Education in the 19th Century;* the chapters dealing with the Revival in the Public Schools, the Work of the Royal Commissions, the Education of Women and Girls, Popular and Technical Education, and Individual Endeavour, contain much useful material. For a good review of both elementary and secondary education in England, see Adamson — *A Short History of Education*, chapters 14 to 18, or Roberts — *Education in the 19th Century.*

For the development of Public Education in the United States, Cubberley, E. P.—*Public Education in the United States* covers the ground very fully with particular emphasis on later development. Particular topics are dealt with in Dexter—*History of Education in the United States.* Chapters 7, 11, 12, 13, 15 and in Brown—*Making of Our Middle Schools*, Chapters 11, 16, 17. See also Hinsdale—*Horace Mann and the Common School Revival*, and Steiner—*Life of Henry Barnard.*

For the history of Education in Ontario, see Coleman, H. T. J.—*Education in Upper Canada;* Putman—*Egerton Ryerson and Education in Upper Canada*, and Bell, W. N.—*The Development of the Ontario High School.* In Karr, W. J.—*The Training of Teachers in Ontario*, the first four chapters are historical. Students should consult, where possible, the chapters on Education in Ontario in *Canada and its Provinces*, Glasgow Brook & Company. Vol. XVIII. Particular references to original sources in Hodgins—*Documentary History of Education in Upper Canada* and Reports of the Superintendent of Education and of the Minister of Education, Ontario, will be given in the lectures. For particular topics and bibliographies, students should consult Monroe—*Cyclopedia of Education*, 5 Vols., where available.

Mamma: "Bobby, why did you clean your shoes on this towel?"
Bobby: "Why, mamma, I only wiped my face and hands on it."

Recent Magazine Articles and Reports on Education

For further information apply to the Librarian, Ontario College of Education, Toronto.

Facilities for Foreign Students in American Colleges and Universities, by Samuel Paul Caper, *Bulletin 1920, No. 39. Bureau of Education, Washington, D.C.*

The Teaching of Civics, as an Agency for Community Interest and Citizenship by John James Tigert, United States Commissioner of Education.—*Bureau of Education, Washington, D.C.*

The Dalton Plan Described. "The class system is virtually abolished, except in so far as the minimum of oral lessons is necessary for breaking new ground or for studying a foreign language. It is replaced by the "laboratory" system. There is a laboratory for English, History, Geography, Mathematics, Chemistry—for each subject of the curriculum."—*The Teachers' World, August 24, 1921.*

Ontario Educational Association. Proceedings of the Sixtieth Annual Convention, 1921. Vol. I. Douglas Bros., Toronto.

Discussion of the Report of the Joint Committee on History and Education for citizenship of the American Historical Association and the National Education Association, by Mr. Joseph Shafer and Mr. Harold Rugg.—*The Elementary School Journal, Chicago, October, 1921.*

Concert number. 48 pages. Material for School Concerts.—*The Teachers' World, London, England, October 19, 1921.*

British Columbia Teachers' Federation Magazine, Vol. I, Nos. 1-2. Victoria, B.C., September-October, 1921.—The official organ of the B.C. Teachers' Federation.

Civics in Continuation Schools, by E. M. White, Lecturer in Civics, London County Council, gives syllabus and books of reference.—*The Journal of Education and School World, October 1, 1921.*

The Dalton Laboratory Plan, by Helen Parkhurst.—*The Journal of Education and School World, November, 1921.*

Part-time Education of Various Types, a Report of the Commission on the Reorganisation of Secondary Education appointed by the National Education Association.—*Bulletin 1921, No. 5, Bureau of Education, Washington, D.C.*

The Visiting Teacher. "As the functions of the school are extended a need for a closer relation between home and school and of a more active knowledge of home conditions than teachers usually have, become evident, some States and cities are attempting to meet this need by providing for visiting teachers, who, having no duties as regular class teachers, may give their time to visiting the homes . . ."—*Bulletin 1921, No. 10, Bureau of Education, Washington, D.C.*

Book Reviews

A New History of Great Britain, by R. B. Mowat, M.A. Two vols., paper boards, 307+370 pages. Price $2.35. Toronto, Oxford University Press, 1920 and 1921. Of the making of school books there is almost no end, but here is a text that deserves special mention. In the first place the author is skilful in choosing those details which appeal strongly to boys and girls. For instance he makes the chief characters really live, and shows clearly and with appropriate detail why they were important. Then he makes good use of illustrative material. Scattered throughout the volumes are very numerous excerpts from sources. In many cases these consist of extracts from the speeches or the writings of the persons being discussed, or of contemporary accounts of events. There are many black and white pictures usually well printed. Finally, the choice and arrangement of topics is good, and, in the case of important topics like India or Ireland, nearly all the material is put in one continuous story. This history of Great Britain has two defects both of which can be remedied in the next edition. It stops short at 1815 and it underemphasises social history in the modern period. It is to be hoped that the author will bring his story down to the Great War, and that social history and the development of the British Empire will receive a much more adequate treatment than is common in school histories. G. J. M.

The Book of Birds for Young People, by F. Schuyler Mathews. Published by the Ryerson Press, Toronto. 323 pages. Price $3.00. This, the latest book on birds, is very attractive with its 67 coloured plates and numerous half-tones. It discusses the common birds, not systematically, but by season. First the birds of early Spring are described, then the birds of April, May, June, July, and there are two chapters on winter birds. A very fine chapter follows on the migration of birds, and finally there is a chapter on the songs of birds in which the notes of our best songsters are set to music and can be imitated or played on the piano. This book will be eagerly read by public school pupils who are keeping records of the arrival of the birds. G. A. C.

The Teaching of Geography, by Mendel E. Branom and Fred K. Branom. 292 pages. Published by Ginn & Co. Price . This volume is evidently prepared as a text-book for training schools for teachers. In the conciseness of material and the systematic arrangement of its matter it is unexcelled. Its view point is that developed during the last few years in the United States, and it gives a clear account of the so-called project method. It gives a sane and complete account of the pedagogy of modern geography in smaller space than any volume which has yet appeared. G. A. C.

The Project Method of Teaching, by John Alford Stevenson. 305 pages. Published by The Macmillan Company. Price $2.10. The Project Method of teaching is so much "in the air" these days that every educationist desires to know what it means and whether it is of great importance in teaching. The volume under review gives as thorough, exhaustive, and dignified a discussion of this method as has been published up to the present time. After an elaborate discussion of the definition of a project and an attempt to distinguish the problem and project the author shows how the project method can be applied to each of the school subjects. G. A. C.

The Geography of Illinois, by Douglas C. Ridgley. 385 pages. Published by University of Chicago Press. Price $3.00. This is the second volume on the geography of Illinois that has been issued within the last few years. It is one of a series which will deal with the different American States. It describes every phase of the geography of the state in a very interesting manner and has numerous coloured maps to illustrate the geological, physical, and climatic features. It should be of the greatest interest to the teacher of Illinois. Just such a publication is needed for the different provinces of Canada. At the present time a teacher who wants any extensive information about the geography of his own province, does not know where to turn. The preparation of monographs on the geography of the different province is a piece of work which would be of the greatest benefit to Canadian teachers. Such work might well be undertaken by the Geological Survey of Canada, or the Departments of Mines of the various provinces. G. A. C.

Elementary Home Economics, by Mary Lockwood Matthews, B.S. Cloth, 348 pages, illustrated. Price $1.40. Boston, Little Brown & Co. This volume is planned for use as a text-book in classes beginning the

study of Home Economics. Nearly one-half of the book is devoted to the selection of clothing and garment-making. In dealing with this branch of the work the author recognizes for it a larger scope than "sewing" as is shown by the consideration given to the study of the textiles, to the hygienic and æsthetic aspects of the garments suggested for construction in class. A small portion of the second half of the book deals with household management problems but for the most part the latter section of the text stresses the work on foods. In this outline of food and cookery lessons the author endeavours to build upon the "meal plan", making the meal the project, while the lessons on various foods are the problems to be studied before the project is completed. Yet, as one studies the text, one realizes that the author has not launched far enough away from other methods, as is evidenced by her attention to the study of "Cooking processes" and "Five groups of foodstuffs" at the beginning of this section. There does not appear the order or sequence in the food work suggestive of sufficient review of principles to be taught, but the author doubtless depends upon the supplementary work of the individual teacher for this. The many class experiments and home problems given are particularly good and should prove suggestive to those teaching the work. This is one of a very few books dealing with more than one phase of Home Economics in a manner simple enough for use as a text by girls of Form IV. L. L. O.

A Text-book of Simple Nursing Procedure For High Schools, by Amy Elizabeth Pope. Cloth, 360 pages, illustrated. Price $2.75. G. P. Putnam's Sons. (The J. F. Hartz Co., Ltd., Toronto, sole agent for Canada). As the author writes in her preface, "It is chiefly treatment and nursing care that are described in this book and, in compiling it, the author has selected procedure of which knowledge is particularly essential for young girls who may have to care for their sick". From the standpoint of presentation the book is to be highly commended. The work is given in a clear, concise way and is so arranged as to make possible the use of the book as a guide or reference for the teacher as well as a text-book for high school students. Descriptions of methods are termed "Demonstrations". For each demonstration the equipment to be used, the exact order of procedure, and the practical points to be observed are definitely outlined. As a rule technical terms have been eliminated except where necessary for thorough understanding, and in no case does the knowledge imparted tend to under-rate the value of or need for expert medical advice. L. L. O.

Henmon Latin Tests, prepared by Prof. V. A. C. Henmon, University of Wisconsin. World Book Co., New York. These are ten tests, framed to determine a pupil's progress in vocabulary. Each test sheet has a list of Latin words on one side with blank spaces in which the pupil may

insert the English equivalent. On the reverse side are several short Latin sentences to be turned into English. Each word or sentence has a definite score value so that a pupil's aggregate mark may be reckoned at a glance. The vocabulary used is largely Caesarian. J. O. C.

Fifty Figure and Character Dances for Schools, by Elizabeth Turner Bell. Two volumes. Price 30 shillings. Published by The Geo. Harrap & Co., Kingsway E.C., England. A very valuable book for those teaching dancing to Public School children. To one understanding the rudiments of folk-dancing and interpretative dancing, the dances are comparatively simple and would be easily taught. Careful directions are given, also countless illustrations of poses and costumes. The dances are arranged to suitable music. M. B. H.

Book Notices

(Mention in this column does not preclude review elsewhere)

Canada As An Actual Democracy, by Viscount Bryce. Cloth, 54 pages. Price $1.00. Toronto, The Macmillan Company of Canada, Ltd., 1921. A brief but clear and interesting description of Canadian institutions by a keen observer. It will be reviewed later.

The Great Schoolmen of the Middle Ages, by W. J. Townsend. Cloth, 361 pages. New York, G. E. Stechert & Company, 1920. An account of the lives of the great schoolmen and of the services they rendered to the church and the world.

The Beggar's Vision, by Brookes More. Cloth, 61 pages. Price $2.00. Boston, The Cornhill Publishing Company, 1921. A new volume of verse by the author of "The Lovers Rosary" and "The Songs of a Red Cross Nurse".

The Castaways of Banda Sea, by Warren H. Miller. Cloth, 191 pages. Price $2.00. Toronto, The Macmillan Company of Canada, Ltd., 1921. A stirring story of adventure by a well known writer of sporting and adventure tales.

Their Friendly Enemy, by Gardner Hunting. Cloth, 209 pages. Price $2.00. New York, The Macmillan Company, Ltd., 1921. The story of two girls who undertook to run a paper.

Alice's Adventures in Wonderland and *Through the Looking Glass*, by Lewis Carroll. Cloth, 224 pages. Price $1.75. London, The Macmillan Company, Ltd., 1921. A well bound, well printed edition of these interesting stories with ninety-two black and white illustrations by John Tenniel.

Visual Nature Study, by Agnes Nightingale. Paper, 47 pages. Price 1/. London, A. & C. Black, Ltd., 1921. Animal life of the seashore, woods and streams described for children, and illustrated by thirty-nine outline pictures prepared for colouring.

A Dramatic Reader, Book I, II, III, by Headland & Treble. Cloth, Books I, and II, 112 pages each, Book III, 176 pages. Toronto, Oxford University Press, 1921. A very attractive collection consisting of dramatized legends, dramatized scenes from novels, and scenes from well-known plays.

Progressive Exercises in English Composition, by C. E. L. Hammond. Paper, Book I, 64 pages, Book II, 96 pages. Price, Book I, 2/6 net., Book II, 2/ net. Toronto, Oxford University Press, 1921.

Self-Help English Lessons, (Second Book), by Julia H. Wohlfarth & J. J. Mahoney. Cloth, 338 pages. Yonkers-on-Hudson, New York, World Book Company, 1921. This is the second volume of a series which will include three text-books and a teacher's manual.

The Duchess of Malfi, by John Webster. Limp cloth, 154 pages. Price 1/6. London, Methuen & Co., Ltd., 1921. This is a new edition of a play printed in 1623. It will be of interest to students of literature.

The Isolation Plan, by William H. Blymyer. Paper boards, 152 pages. Boston, The Cornhill Publishing Co., 1921. Mr. Blymyer sets forth a plan for an international convention under which nations would simultaneously cease their military and naval activities, and institute compulsory arbitration under the sanction of isolating any nations that refused to submit or comply with an award.

La Comedia Nueva, by L. F. De Moratin. Cloth, 108 pages. London, Methuen & Co., Ltd., 1921. A xschool edition with notes and vocabulary.

Selections from *The Year Book Press Series of Unison and Part Songs*, edited by Martin Akerman, published by H. F. W. Dean & Sons, 31 Museum St., London W.C. The series should provide plenty of choice for school choral societies. The price per copy is from 3*d*. to 6*d*.

Notes and News

Ontario

Last Year's Classes in Training Schools

Stratford Normal School.—Mr. Arnold Glazier is teaching in S.S. No. 5, McIntyre Township, Port Arthur; Miss Janet MacKinnon at Port Elgin; Miss Laura MacKinnon at Port Elgin; Mr. Graham MacNay at R.R. No. 5, Goderich; Mr. Jack D. Campbell in St. Thomas, at 46 St. Anne Street; Miss Forda Lake at R.R. No. 1, Gowanstown; Miss Muriel Haugh at U.S.S. No. 8, Turnbury and Morris; Miss Mary E. McCallum at R.R. No. 5, Wallaceburg; Mr. John H. Rennie at Springford P.O.; Miss Norma F. Thompson at Lucknow; Miss Pearl R. McCutcheon at R.R. No. 3, Woodford; Miss Kathleen Smith at R.R. No. 5, Tara; Miss Rebecca Armstrong at S.S. No. 7, Turnberry and East Wawanosh Tps., Huron County; Miss Madeline Rae at R.R. No. 1, Desboro; Miss Mary Fuller at R.R. No. 1, Holstein, Grey County; Miss Annie Baxter at R.R. No. 5, Goderich; Miss Elizabeth J. Baker, at R.R. No. 1, Listowel; Miss Hope Bowra at R.R. No. 2, Gadshill; Miss Alice Shepperd at R.R. No. 6, Goderich; Miss Edna L. Reid in S.S. No. 5, Morris Tp., Huron County; Miss Blanche Petrie at R.R. No. 2, Atwood; Miss Janet Welsh at R.R. No. 3, Ripley; Miss Mary G. Snyder at R.R. No. 5, Mount Forest; Miss Elma G. Hembly at Box 96, Palmerston; Miss Olive Devitt at Glen Allan; Miss Lillian Laird in Wiarton Public School; Miss Christena Kinmond at Tiverton; Mr. Herman H. Schmidt at McIntyre.

Hamilton Normal School.—Miss Marion Puttick is teaching in Hamilton, at 129 Wentworth Street, North; Miss Edna L. Andrews at Little Current; Miss Martha E. Black at R.R. No. 1, Niagara Falls S., Mt. Robert Rhodes at R.R. No. 2, Marshville; Mr. Godfrey Penfold at Elmira, R.R. No. 2; Miss M. Alice Eagle in S.S. No. 21 Brant Township.

North Bay Normal School.—Miss Muriel M. Drew is teaching at S.S. No. 1, Cameron, Mattawa P.O.; Mr. W. Rexford Smart in S.S. No. 1, Shenston; Miss Ena W. O'Harr at Beachburg; Miss Mary Parker at Cookstown; Miss Verna E. Miller in Bruce Mines Public

School; Miss Nora R. Pace at Ophir; Miss Jessie L. Pace in Bruce Mines Public School; Miss Jean Milne in Port Arthur at 280 Argyle Street; Miss Velma Lee at Timmins; Miss Cora McLean at S.S. No. 5, Ryerson Tp., Parry Sound District; Miss Vera G. Pace in Cloudslee Rural School; Miss Cecelia Regan in Cobalt Separate School; Miss Eleanor M. Hambley at Nairn Centre; Miss Edith Runciman at S.S. No. 7, Widdifield; Miss Marjorie Hazelton in Ogden St. School, Fort William; Miss Mary Hall at R.R. No. 1, Forester's Falls; Miss Annie Deloughery in Sault Ste. Marie; Miss Beryl Barker in S.S. No. 4, Drury near Turbine.

Ottawa Normal School.—Miss Alice Harbison is teaching in S.S. No. 1, Marlborough, R.R. No. 4, Kemptville; Miss Josephine Milligan in Eganville; Miss H. MacDonald at R.R. No. 1, Jasper; Miss Gladys Kerr in Woodroffe School, Ottawa; Miss E. Baylie Hall in Bainsville; Mr. Arthur H. Logan at Rock School, Elizabethtown S.S. No. 2, near Brockville; Miss Cassie Smith at R.R. No. 1, Greenfield; Mr. Charlie W. Coulthart in S.S. No. 15, Winchester, Dundas County; Miss Iasbel Graburn at R.R. No. 1, Leonard; Miss W. O. Luella Craig at Osgoode Station; Miss Lena M. Fretwell at R.R. No. 1, Prescott; Miss Lillian Bathurst at Dalhousie Mills; Miss Mary B. Conway at R.R. No. 1, Vankleek Hill; Miss Mildred B. Foley at Manotick; Miss Yvonne Gauthier at R.R. No. 1, St. Isidore de Prescott; Miss Mary Cryderman in North Gower Public School; Miss Aleda K. McConnell in S.S. No. 2, North Gower.

Peterborough Normal School.—Miss Flora M. Bell is teaching at R.R. No. 1, Caledon; Miss Evelyn Moore at Hartley; Miss Mary Higgs at R.R. No. 4, Frankford; Miss Winifred E. Darke in S.S. No. 15, Township of Reach, Ontario Co.; Mr. O. Blanchard at Roche's Point; Miss Veronica Moloney at Cordova Mines; Miss Mildred Higgs in S.S. No. 19, Mariposa; Miss Myrtle L. Swain in Dale School near Port Hope; Miss Marjorie Stenton at Franklin; Miss Norma McLeod at Box 167, Orillia; Mr. W. E. Stillman in S.S. No. 5, Cavan Township, Victoria County; Miss Wilma Burgess at R.R. No. 2, Norwood; Miss Bertha Staples in S.S. No. 8, Bertie Township, Welland County; Miss Vera A. Bradshaw in S.S. No. 7, Hope Township; Miss Lena Sharpe at Eldorado; Miss Hildred Patton at R.R. No. 2, Nestleton; Miss Audrey V. Miller at R.R. No. 3, Pontypool; Miss Helen Ames in S.S. No. 15, Brighton in the village of Codrington.

Toronto Normal School.—Miss J. Bradley is teaching at Plevna; Mr. E. O. Cathcart in S.S. No. 11, East York, Oriole; Miss Olive Mowatt at Hester How School, Toronto; Miss Myrtle Clarridge at Davisville School; Miss Irene M. Lobraico at St. Patrick's School, Toronto; Miss Mary E. Campbell is on the occasional staff, Toronto.

A conference of great interest to all educationists, was held in Toronto on November 12th. It was composed of representatives of the Trustees and Ratepayers' Association, and the Teachers' Federations. The former was represented by W. J. Ferguson, London, Rev. W. M. Morris, Toronto; Samuel Farmer, Port Perry; R. J. McKessock, Hampton; Dr. E. H. Wickware, Smiths Falls; Judge Scott, Perth; Mrs. W. Morris, Peterborough; Miss Mary Colter, Brantford: the latter by Miss Bertha Adkins, St. Thomas; Miss Helen S. Arbuthnot, Toronto; Miss Jennie Stead, Walkerton for the Public School Women Teachers' Federation: J. A. Short, Swansea; H. A. Halbert, Toronto; Martin Kerr, Hamilton, for the Public School Men Teachers' Association: Walter Clarke, B.A., Hamilton; H. R. Kenner, B.A., Peterborough; Lt.-Col. W. C. Michell, for the Secondary School Teachers' Federation.

Rev. Mr. Morris outlined the objects of the meeting. Both trustees and teachers were confronted with difficulties and a joint meeting might result in a better understanding, and preserve that harmony which should be maintained between the two parties.

The President of the Secondary Teachers' Federation was then called upon to state the objects of the Federation. He stated that the teachers had united to raise the status of the profession, and secure conditions essential to the best professional service. He showed how, from patriotic motives, they had refrained from attempting to improve conditions during the war, but when the war was over, they were compelled by necessity to take action to safeguard their own interests. The improved conditions would attract capable young men and women to the profession, and guarantee to Ontario an adequate supply of the best teachers. That nation which employs the best teachers at adequate pay will soon surpass all others in development of natural resources and commercial enterprises. With such an objective the teachers might well expect to have the sympathetic co-operation of the trustees.

Several of the trustees vigorously opposed the clause in the Secondary School Constitution which prevented its members from applying for positions with any board "not in good standing." The teachers realised that the application of this clause had led to several undesirable situations. A solution, was found in the resolution, approved by all: "that the Government be urged to enact legislation, providing for the establishment of a Board of Reference, or Conciliation, to settle disputes between boards and teachers.

Judge Scott stated that the majority of the trustees were not opposed to reasonable salary claims. They were really desirous of making the teaching profession as attractive as possible. They objected most strongly to teachers breaking their contracts, and leaving in the middle of a school year. If a form of contract which would safeguard the in-

terests of both boards and teachers alike, could be prepared and adopted by the Department of Education, most of the misunderstandings would be removed. After a lengthy discussion he submitted the following resolution, which was approved, and will be submitted to the various organizations for endorsement:—"That this joint conference recommend to the Minister of Education to amend the High, Continuation and Public School Act so as to require all teachers to enter into a written agreement with the Board to be effective until the close of the School Year in June, and to be deemed renewed from year to year until terminated by either party on the 1st day of September by at least thirty day's previous notice in writing."

This would guarantee to the various schools complete staffs of teachers for the year, and to the members of the staffs security of tenure of office with ample time to obtain better positions.

Many instances were cited to show that teachers frequently acted most unfairly towards boards, and boards towards teachers. Both parties deprecated this state of affairs and are determined to find a remedy.

The meeting closed with a vote of thanks to Rev. Mr. Morris for arranging the Conference with the suggestion that similar conferences be held in the future, for all felt that a decided forward step in the cause of education had been made.

Mr. McKessock acted as chairman and performed his duties in a most impartial manner so that complete harmony prevailed.

Mr. Walter Clarke officiated as Secretary.

Languages and History for the Departmental and Matriculation Examination, 1922

According to a recent announcement of the Department of Education, the Middle School course in British History for the examinations for admission to Normal Schools and for Pass Junior Matriculation in 1922 is as follows:—"British History from 1763 to 1885. The Geography relating to the History prescribed." The Curriculum for Matriculation for 1921-22 recently issued by the University of Toronto is incorrect in this respect. The University has notified the schools of this correction.

In other respects the new Curriculum of the University of Toronto prescribes the same courses as for the Departmental Middle and Upper School examinations. The recent revision of the High School courses, to which the University Curriculum conforms, requires, however, the following changes in the language prescriptions as contained in Circular No. 58 of May, 1921.

I. As Latin is no longer offered as a bonus at the Middle School examination, the prescription on Page 6 should be deleted.

II. For the texts prescribed in Upper School Latin substitute the following:—

Caesar, De Bello Gallico, Book V; Cicero, In Catalinam I and III.

Horace, Odes as follows:—

Book I. 1, 2, 4, 5, 9, 10, 14, 22, 24, 31, 38;
Book II. 3, 10, 14, 15, 16, 17, 18, 20;
Book III. 1, 2, 6, 8, 9, 13, 18, 21, 23, 29, 30;
Book IV. 3, 5, 7, 12, 15.

III. The continuous passages of English for translation into French and German, respectively, will be based on the prescribed texts and not, as heretofore, on the Reader.

The graduates of the 1920-1921 course at the Toronto Normal School held their first meeting since graduation, in the theatre of the Normal School on Saturday night, November 5. The purpose was to form a permanent organisation for the class. The attendance was unusually good and the meeting very enthusiastic. After an hour of conversation and goodfellowship during which the experiences of the first few months' teaching were exchanged, the meeting was called to order and the business proceeded with. "T.N.S. Twenty-twenty-one" was the name selected for the organisation and the following were elected as the first officers:—Honorary President, Mr. S. J. Radcliffe, Principal of the Normal School; President, C. T. Sharpe; Vice-President, Miss Joy; Secretary-Treasurer, Miss Rutherford; Committee, Miss Robinson, Miss Butchart, Miss I. Foster, and Miss E. Dewar. The list of officers includes one representative from every form in last year's class. It was decided to meet at least three times a year,—at Thanksgiving time; during the sessions of the Ontario Educational Association at Easter; and immediately after the close of school in June. In addition to the meetings the activities will include a news letter to the whole class a couple of times a year. These who were not at the meeting will hear complete details from the secretary in due time.

In order to assist teachers at present in service in rural schools the Minister of Education has decided to open Saturday classes in Manual Training and Household Science. The classes commenced on Saturday, October 1st, 1921, at the Hamilton Normal School, and will continue until Saturday, June 10th, 1922. Any teacher actually employed in a rural inspectorate is eligible to attend. The Course provided will parallel the Summer Course given in Toronto and will be given the same credit for the Elementary certificate. An examination will be held at the end of the Course, and successful students will be required to attend

the second year of the Summer Course held in Toronto, 1922, in order to complete the elementary certificate in Manual Training or Household Science, unless excused by the Minister. An allowance of $1.25 will be paid to each student for each day's attendance at the Saturday classes to assist in paying travelling and other expenses.

So many Canadian Schools prepare candidates for Matriculation to the Royal Military College, Kingston, that the following extracts from the Royal Military College Regulations showing the expenses entailed in sending a boy to the College, will be found of general interest:

A Cadet shall be required to pay, annually, a fee of $100 and $200 to cover his expenses.

The payment of the $100 fee shall be in advance and the payment of the $200 in two sums of $100 each; the one in advance at the commencement of each term, before joining, and the other on the 1st January following; but, if considered necessary by the Commandant of the College, this second installment must be paid at an earlier date on his demand to that effect.

To meet the extra expense of his outfit, the Cadet will be required to pay in advance, for the first year only, an additional sum of $250. (Parents or guardians making the above payments should deposit the same in a local bank to the credit of the "Receiver General" retaining only the depositor's part of the receipt and forwarding the remaining three portions, duplicate, triplicate and draft, addressed to "The Commandant, Royal Military College, Kingston, Ont.," not later than 1st September).

The necessary expenses referred to in the foregoing, and for which the annual payment of $200 and the additional $250 for the first year, are required, are as follows:— Uniform clothing and boots, recreation clothing, books, instruments, drawing materials, washing personal linen, church sittings, etc. All charges against these payments will be accounted for monthly to the Cadet. If at the end of the term there is a deficit, the same must be paid forthwith; a credit at the end of the term will be deducted from the next payment due. If at the completion of the Cadet's engagement there is a Balance Credit, it will be refunded.

An allowance for travelling expenses at the rate of four cents per mile for the number of miles beyond 500, necessarily travelled between the place in Canada in which he resides and the College, will be paid to each Cadet at the time he is first admitted, and a similar allowance will be paid to each Cadet who has completed the full period of the College course and obtained a certificate of good conduct. No allowances for travelling expenses will be granted to those who reside less than 500 miles from the College.

It would thus appear that the expenses for the first year would total $550, and for each additional year $300.

The seventy-fourth meeting of the American Association for the Advancement of Science will be held at Toronto, Canada, December 27th to 31st, by invitation of the University of Toronto and of the Royal Canadian Institute.

For full particulars, programme, etc., write to Mr. H. L. Seymour, secretary of the Local Committee, 40 Jarvis Street, Toronto.

Quebec

The 57th Annual Convention of the Protestant Teachers of Quebec was held in Montreal High School, October 6th, 7th, and 8th, where the speaker was Dr. William Bagley, of Teachers' College, Columbia University. Dr. Bagley's inspiring addresses were much appreciated by the teachers present.

The Convention broke up into sections on Thursday afternoon and on Friday forenoon. In each section there were several model lessons and discussions. Addresses were also given by Principal Sir Arthur Currie, Professor Best and Professor Nobbs of McGill University.

The election of officers for the current year showed the following results:—

President	Miss Isabel E. Brittain, M.A.
Vice-Presidents	W. A. Kneeland, B.C.L.
	T. I. Pollock, B.A.
	Miss Mabel Fraser, B.A.
Recording Secretary	Miss Ethel Cliff.
Corresponding Secretary	J. S. Astbury, B.A.
Treasurer	Miss Jessie M. Norris
Representative on Protestant Committee	W. Allen Walsh, B.A.
Representative on McGill Corporation	Mrs. Wilson Irwin, M.A.
Pension Commissioners	E. M. Campbell, B.A.
	M. C. Hopkins, B.A.
Curator of Library	A. R. McBain, M.A.
Executive	Inspector Parker, B.A.
	Inspector McOuat, B.A.
	C. W. Ford, B.A.
	Miss Leonie Van Vliet
	Inspector Taylor
	J. B. McMillan
	C. A. Adams, B.A.
	Miles Walker, B.A.
	Dean Laird, M.A.
	Miss Amy Norris
	C. D. Logan, B.A.
	W. Chalk, B.A.
	Miss H. Winn
	H. G. Hatcher, B.A.
	I. Gammell, B.A.

The question of affiliation to the Canadian Teachers' Federation arose out of the report made by delegates at the last meeting of the

Federation. As affiliation would mean a change in the Constitution of the Provincial Association, particularly with regard to fees, it was decided to take steps to acquaint the teachers of the province with the situation and ask for a decision at the next Convention in 1922. It was felt that the subject had not been discussed sufficiently by the Association, chiefly for lack of information.

At the Centennial Celebration in connection with McGill University, two members of the Protestant Association received the honorary degree of Doctor of Laws, viz., H. J. Silver, Superintendent of Protestant Schools, Montreal, and Wellington Dixon, Rector of the Montreal High School. This tribute to secondary and elementary education was much appreciated by teachers of the province. After the ceremony, Dr. Dixon was presented with the robes of his degree by members of the staff of the high school. Dr. Rexford, the previous rector, also presented Dr. Dixon with an old black gown once worn by Dr. Howe and handed down to himself. Dr. Howe's gown was felt to be a heirloom in the high school and is much prized, because Dr. Howe was really responsible for the development of the school in its early days.

Nova Scotia

The Normal College at Truro opened September 29th with a larger enrolment than for three years past. The only change in Staff is in the Art Department, where Miss Eileen Hallisey succeeds Miss Whiting. In the Manual Training Department of Truro Schools, Mr. David Whitly succeeds Mr. George Hoffman. The latter is Manual Training Instructor in Halifax.

The town of Liverpool is actively interested in the all-round training of its children. Each year, the School Board votes $100 towards the School Exhibition prize-list. This year, the Board has bought a large field adjoining the school, and will proceed to make it suitable for athletic purposes. The energetic principal is Mr. R. F. Morton, who is ably assisted by as capable teachers as can be found anywhere.

Bridgewater, which has the most beautiful school grounds in Nova Scotia, has installed modern play equipment. Principal A. G. G. Hirtle and staff are untiring in their efforts to keep the school up to a high standard.

Principal M. O. Maxner, Lunenburg, is having wonderful success in training the young citizens of that town. No part of necessary training is omitted.

School exhibitions in Nova Scotia are growing in popularity and in usefulness. The 300 schools which have exhibited the results of their manual work this year have learned many useful lessons that could not otherwise have been acquired.

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The School

"Recti cultus pectora roborant"

Editorial Notes

The New High School

Fifty years ago an Ontario High School Inspector expressed the aim of the newly reorganized high school system as "not the training of a select band of intellectual athletes for University distinctions, however desirable and important, but to crown the work of the Public School, by imparting a wider culture, training the awakened intellect, stimulating and instructing the faculties of observation and reasoning; and, by infusing such tastes as befit people who claim to be intelligent and free, to enable them to promote the intellectual progress of the new Dominion, and to extend the range of topics which they care about, beyond money-making, personal gossip, religious controversies and ephemeral politics." He quoted with approval the ideal pictured by Her Majesty's Commissions speaking of secondary situation in England:—"A well-organized system of Grammar Schools....would spread its net to catch boys who want a commercial education, and having caught them would, while it gave them what they needed, by a process of natural selection, keep for the higher learning all who were fit for it. It would bring every boy of capacity by the age of 14 or so into contact with the mind of a scholar, and familiarize him with the prospect of an intellectual career. Such a system would find no small class of parents eager to avail themselves of it; and, once inaugurated, it would, by its own operation, perpetually augment this class. Not only would it by degrees create a taste for science and literature in our large towns (where there might be plenty of leisure for it if only there were the will); it would constantly be increasing the demand for Schoolmasters of high University degree, and thus be giving to the scholastic career more of the material encouragement which it at present lacks."

But as it turned out the development of the high school in Ontario was not what he had hoped for. The demand for entrance to the professions and the examination system on which this depended drew more and more of the energies of teachers and pupils into preparation for matriculation or for teachers' certificates. The success of a school was measured by the number of pupils who passed examinations. The

general course, whose aim was to afford something of a liberal education and so to "crown the work of the public school," dwindled in importance.

The recent reorganization of the High School curriculum will go far to restore the balance. The recent legislation and the new curriculum have once more given an opportunity to realize the ideals so ably presented fifty years ago. The interval has seen a great multiplication of schools, an immense advance in professional and material equipment. The school can turn now to a wider aim. Social demands which have everywhere stressed the vocational in secondary school work in recent years will doubtless first be met and provided for. But vocational training must be generously interpreted. Preparation for the industries must still include humane studies as preparation for the professions has always done.

Music in the School Room

In this issue appears the first of a series of six articles on the teaching of music in the public schools. Music is one of the late additions to the Public School curriculum and would doubtless be classed by advocates of the 3 R's type of curriculum as one of the "fads and frills." But to-day the so-called "fads and frills" no longer need defence. It is well established that not only do they not hinder the pupils' progress in the fundamental subjects, but actually accelerate it. It is to be hoped that in the near future music will find its place in the high school as well as in the public school. Already a large proportion of the high schools in the United States are offering music courses and in many cases granting credits for them. Chorus singing has now an established place among high school activities and high school orchestras are appearing in increasing numbers. Courses in harmony and music appreciation are common. Nearly two hundred colleges in the United States allow one or more units of entrance credit out of fifteen or sixteen required units.

The Norwich Tests

A few years ago a teacher in the Norwich Free Academy, Norwich, Conn., undertook to test his pupils (and the pupils of other schools in the town) on some examination papers set for pupils in the same grade in the same town fifty years before. Since he had not only the question papers, but the results of the previous tests, he was able to make some interesting comparisons. The average age of pupils taking the examination in 1856 was 15 years. Pupils in the same grade, the eighth, in 1906 were of the average age of 14. Yet the pupils of 1906 did much better work than those of 1856, on the same examination under conditions as nearly similar as could be arranged. The combined average mark of the pupils in the 1906 schools tested in Arithmetic, Geography, Grammar

and History was 80 per cent. as against 60 per cent. in 1856. Yet the pupils were at least a year younger. It is striking evidence of the advance in methods of teaching and organization, and of the fact that widening the curriculum has not caused any lack of skill in the fundamental subjects. According to this test, in not a single subject were the pupils of 1856 as good as the pupils of 1906. Are not similar tests possible in Ontario? Perhaps in a neglected cupboard in some long established school or in some inspector's office there may be copies of questions and answers that would afford a like opportunity of comparison. It would be highly interesting.

The New Humanism

The recent report of the Departmental Committee appointed by Mr. H. A. L. Fisher two years ago, The Teaching of English in England, will be of great interest not only to those for whom it was intended, but to all teachers who are trying to solve the problem of giving as much as possible of a liberal education to pupils whose opportunities do not go beyond the elementary or, at most, the secondary school. Whatever studies may be added, English must form the basis of a liberal education for all English-speaking people. With so many subjects, and all worth while, demanding a place on the curriculum, it is to be hoped that the recommendations of this committee will be widely studied. Never before have the possibilities and the importance of English as one outstanding and indispensable subject both for elementary and secondary education been so clearly and so wisely set forth. Education in the classics, for centuries the basis of humanistic training, is not possible for all. How far can the study of English afford a similar discipline? The report speaks clearly, confidently and hopefully.

A Blooming Chicken

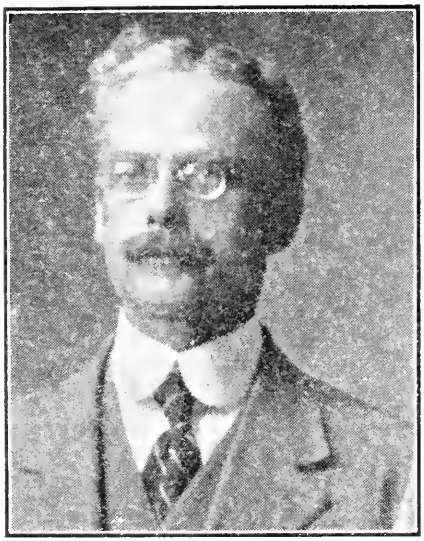
Little Mary was visiting her grandmother in the country. Walking in the garden she chanced to see a peacock, a bird she had never seen before. After gazing in silent admiration she ran quickly into the house and cried out: "Oh, granny, come and see! One of your chickens is in bloom".—*The Christian Register.*

Memory Training

Rose, the garrulous domestic, can give you facts of history—international, dramatic, scandalous—without a moment's hesitation. "How do you manage to remember all these things, Rose?" inquired her employer the other day. Then Rose came back with the infallible rule for memory training. "I tell ye, ma'am", says she. "All me life never a lie I've told. And when ye don't have to be taxin' yer memory to be rememberin' what ye told this one or that one, or how ye explained this or that, ye don't overwork it, and it lasts ye good as new forever.—*Mail and Empire.*

Dr. W. N. Bell

Education in Ontario suffers a distinct loss in the death of Walter N. Bell, B.A., D.Paed., for 23 years Principal of the Paris High School, who passed away at his home in Paris on November 23rd. Dr. Bell was born in Somerset, England in 1867. He attended the Orangeville High School from which he matriculated to the University of Toronto. He graduated in Arts with high honours, in Classics, in 1894. In 1918 he was awarded the post-graduate degree of Doctor of Pedagogy. After some experience as teacher in the High Schools of Strathroy, Simcoe and Glencoe he was appointed Principal at Paris, which prospered greatly under his management. Dr. Bell gave notable public service in other ways. He was a member of the Senate of the University of Toronto and of the important commission appointed by the Ontario Government for the reorganization of the high school curriculum and regulations. He took also an active part in the municipal life in the town where he made his home. He was vice-president of the Board of Trade and president of the Paris horticultural society. Under a quiet and unassuming manner, Dr. Bell combined in an unusual degree, energy and scholarship, and a sane judgment of men and affairs.



WALTER N. BELL, M.A., D.PAED.

An Educational Tour

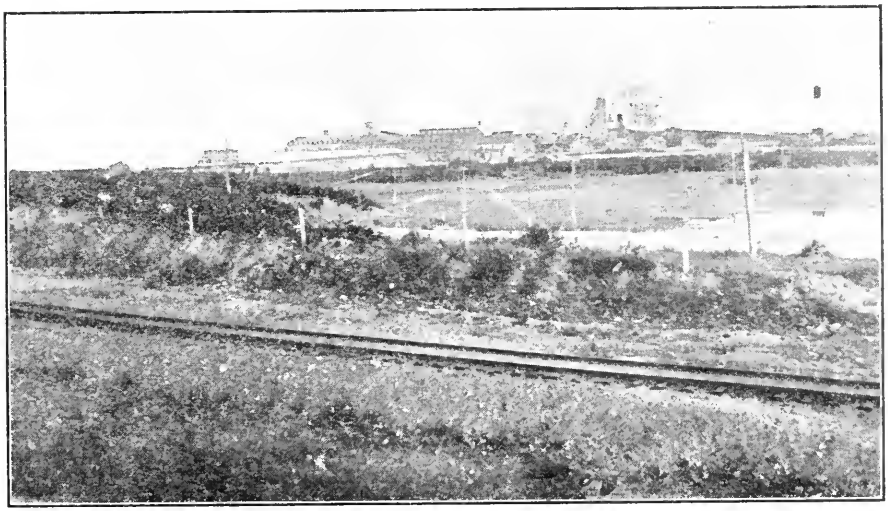
(Continued from December Issue)

W. J. DUNLOP, B.A.
Director of University Extension University of Toronto

ON Thursday morning the teachers awoke at Timmins, that hustling mining town which owes its existence largely to the great Hollinger gold mine. On the station platform there waited the Mayor, members of the City Council, of the Board of Trade, and of

the Board of Education and the teachers were accorded a welcome that was full of "snap" and "pep." Breakfast was served in the Masonic Hall; then everyone repaired to the theatre to see motion pictures of gold m'ning; next, motor cars took the visitors to the Hollinger Mine where they saw gold sufficient to pay the salaries of several teachers for a year or two. Here they learned the details of gold refining and many notes were jotted down in the notebooks which were everywhere so much in evidence.

The teachers really "did up" Timmins. They were driven, or walked, all over it; bought postcards and wrote them; sampled ice cream and ice cream sodas; in fact, made themselves thoroughly com-

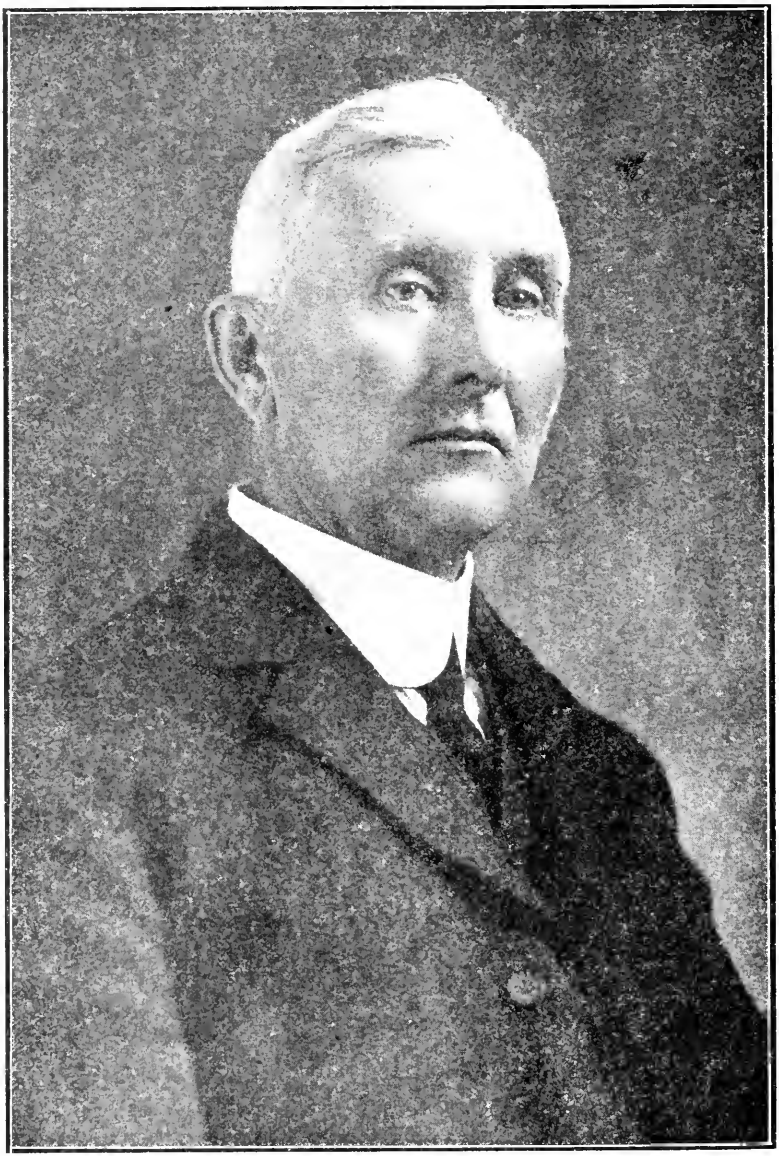


HOLLINGER MINES, TIMMINS

fortable. They were surprised to find Timmins such a substantial, solid sort of place when they had thought of it only as an evanescent mining camp. They found large brick buildings erected to serve one or two generations. For their convenience as a rest room and headquarters the large eight-roomed brick school was opened. (By the way, a third story is planned for this building to relieve the present congestion). So cordial were the people in Timmins, so anxious to be hospitable, that the teachers felt entirely "at home" in the place.

By quiet but persistent enquiry it was learned in all the points at which stops were made on this tour that the local women teachers do not hold their positions very long—they soon marry and become permanent residents! Many ex-teachers of this type were found and not one of them expressed any regret over having come north to teach.

One may, therefore, be pardoned for pointing out to teachers in Southern Ontario that teaching in the North has advantages other than good salaries and attractive living conditions!



THE HON. R. H. GRANT
Minister of Education

The mid-day meal, like the morning one, was served by the ladies of Timmins in the Masonic Hall. It had been announced earlier that, at the conclusion of this meal, the Minister of Education would address the tourists and all were looking forward to his pronouncement. The Honourable Mr. Grant spoke first of the educational tours, remarking that the trip of last year had been an experiment, and a successful one, that this second tour had confirmed the opinion he had formed last year, and that now he asked the co-operation of the representative teachers to whom he spoke in formulating a permanent policy in this regard. He suggested that each teacher approach his or her member in the Legislature and describe the tour in full detail so that, when the time comes to decide in the House of Assembly whether these trips shall be made permanent annual affairs, the members will have full information on the subject and can vote intelligently.

Continuing, the Minister asked the assistance of the teachers in another direction. The Department of Education is having literally "all kinds of trouble" in securing the ages of teachers for the purposes of the Superannuation Act. It seems to be impossible to secure accurate information on this point and the Act is not workable without it. Apparently, the difficulty is due to carelessness and procrastination and the teachers were asked to make known this condition of affairs at their Teachers' Institutes so that it may be remedied.

Certain amendments, said the Minister, had been made to the Superannuation Act at the recent session of the Legislature, the effect of which was to give the Minister of Education power to exercise his discretion (provided the actuarial report due this year shows that these changes may be made without impairing the solvency of the fund) in (*a*) returning to teachers who left the profession the moneys they had paid to the fund, (*b*) decreasing the number of years of service necessary before superannuation, and (*c*) increasing the amount of the annuity payable to beneficiaries.

The appreciative demonstration which burst forth when the Minister concluded his address was, like the one which greeted his rising, almost riotous in character, especially for inspectors and teachers who are, of course, expected to preserve on all occasions due decorum but it was merely an outward indication of the Minister's popularity with his teachers. They have every confidence in his ability and his willingness to guard their interests in every particular.

As the teachers filed out of the hall and made their way to the depot to board the train for Iroquois Falls moving pictures were, it is said, taken and, no doubt, this film will be shown on the screen during the winter.

What is there about strains of music played by a brass band to quicken the pulse, make the sunshine seem brighter, and give one an

excellent "first impression" of a town? Truly, "music hath charms!" As the education special pulled into Iroquois Falls the town band was playing a jaunty air and the train was quickly emptied. Each tourist was handed an attractively printed programme of the arrangements made for the afternoon and evening and then, headed by the band, the procession set out for the paper mill which is the *raison d'etre* of the town.

After a detailed study of paper-making in all its stages, the teachers explored the "closed town" or "company town" of Iroquois Falls. One building of special interest was, of course, the Public School which seems to be, in every particular, quite the equal of any school in any city in Canada. From the school everyone went to the town hall where an illustrated lecture on paper-making was delivered.

So tremendously efficient are the officials of Iroquois Falls that no detail is overlooked; they foresee everything and they are anxious to make their guests comfortable. This was Thursday; the teachers had been on the train or in motor cars almost continuously for four days—there had been no opportunity to take a bath and the weather was very hot! But the programme announced that anyone might have a bath at the Iroquois Hotel and those who accepted the invitation were soon cooler, happier, and more comfortable.

Supper was served in the dining room of the Iroquois Hotel and the evening's entertainment was a dance in the town hall, with the usual felicitous speech-making and a musical programme.

Iroquois Falls is owned by the Company that owns the paper mill; every inhabitant of the town is an employee of the Company; there is no unemployment because, when a man loses his job, *ipso facto* he leaves town. Here are no signs of depression but, on the contrary, the paper mill was running day and night. The reporter talked with employes of the mill and was told that they had recently taken a "cut" in wages averaging seventeen per cent. and had refused to strike. Relations, said they, are so cordial between management and men that everything goes smoothly. In the centre of the town is a park with tennis courts and baseball diamonds. The characteristics of this town, the ideas that come to the visitor's mind as he explores it, are efficiency and cordiality, and such was the impression that Iroquois Falls made on the touring teachers. This extract from the Iroquois Falls' programme is worth emphasizing:—

SAVE OUR FORESTS

"If you feel that we have interested you in papermaking, now one "of our great national industries, will you do something for Canada "when you get back home? Remember that perhaps the greatest "asset this country possesses in its international trade is having its

"life seriously jeopardized by something which foresight and better "organization will prevent. We refer to the disastrous effects on our "national timber wealth of forest fire and timber bug. Every year "these two national dangers destroy sufficient good timber to keep "ten mills such as the one you have seen to-day in operation for a full "year. The awakening of public interest in this grave danger is a "vital necessity and we ask you to use your influence in whatever way "you can to have the present condition of affairs remedied."

(To be continued.)

A Recent Appointment

Mr. T. C. Smith, M.A., Principal of the Gananoque High School, has been appointed by the Lanark County Council to succeed Mr. F. L. Michell as Inspector of Public Schools for Lanark West. He will take up his new duties on February 1st. Mr. Smith was born on a farm in the County of Grey. He attended the Collegiate Institute at Owen Sound and later at Collingwood. Here he took his first class certificate in the days when Mr. Williams was principal. His early professional training was received at the County Model School in Durham and at the Toronto Normal School. He is a graduate in Arts of Queen's University with first class honours in Science, a department in which he ranks as a specialist. Attendance at summer sessions at the O.A.C. brought him in 1917 an Intermediate certificate in Agriculture and Horticulture. To these high qualifications Mr. Smith adds a long and successful experience which will be an admirable preparation for his work as inspector. He taught four years in a rural school in Grey County; was principal of the County Model School at Renfrew and at Chatham; was assistant in the Chatham Collegiate Institute. After several years experience

T. C. Smith, M.A., I.P.S.

as assistant—he was Science Master at Smiths Falls and at Napanee Collegiate Institutes—Mr. Smith was for seven years Principal of the Campbellford High School and has been for two years Principal of the High School at Gananoque. "THE SCHOOL" wishes Inspector Smith every success in his new career.

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

TYPE LESSONS ON FARM ANIMALS

Swine

These suggestions are for two fifteen minute lessons. The teacher should obtain from the Department of Agriculture, Parliament Buildings, Toronto a sufficient number of copies of Bulletin No. 225 to supply the class.

Introduction:—"To-day we saw a wagon passing the school carrying a load of live hogs. Tell me where they were being taken."

Discussion follows dealing with the delivery of the animals at the railway yard, their transportation to the abattoir, (probably at Toronto), the converting of the animals into bacon and the shipment of this to England. In the latter country Canadian bacon holds a foremost place.

What does a hog weigh when it is fit for converting into prime bacon and what is the age at which this weight should be reached? 160-200 lbs. and 6 to 8 months. A study of the pictures in pages 6 and 7, Bulletin No. 225, will reveal what the English consumer regards as good bacon and will help the pupil to understand the characteristics of a good bacon hog.

The bacon type and the lard type are now compared by using the pictures on pages 8 and 11, Bulletin No. 225. The following points are noted: The bacon hog has a long broad back and a long side measured from rear of shoulder to front of ham. The animal is much leaner than the lard type and the lower part of the body, the belly which makes meat of poor quality, is trim while in the bacon type this almost reaches the ground. In the bacon type the shoulder, neck and jowl (cheek) are much lighter than in the lard type. These latter parts also yield inferior meat. Hence we see that the bacon type is well developed only in the parts that make the best bacon.

The reason for the existence of the two types is now taken up, and is as follows: In the corn belt of the United States, hogs of the lard

type can be produced at lower cost than probably anywhere else in the world and in this region fully one-sixth of the hogs of the world are reared. The fat pork produced from corn fed hogs is not so acceptable to the English palate as the leaner meat from animals fed upon the skim milk, shorts and oat and barley meals of the Canadian farms. The bacon of excellent quality produced by feeding certain breeds of swine upon these foods commands the highest price in the English markets. This offsets the advantage of cheaper production in the corn belt.

The teacher announces that in our next lesson he will take up the question as to what breeds of swine are the best for bacon production. In the meantime the pupils will discuss the question with their fathers and with others who have had practical experience with animals of either one of the two types of swine.

The second lesson will deal with breeds of swine.

Begin with a class discussion which tests the pupils' knowledge of the various breeds and make a classification of the breeds into lard type and bacon type.

Blackboard summary:

Colour	*Bacon Type*	*Ears*	*Lard Type*	*Ears*
White	Yorkshire	Erect	Chester White	Drooping
Red	Tamworth	"	Duroc-Jersey	"
Black	Improved Berkshire	"	Berkshire	Erect
			Poland-China	Drooping

The pictures in the *Manual of Agriculture*, pages 60-63, or those in Bulletin No. 225 are useful in comparing the several breeds. The pupils should learn to distinguish the white breeds by the difference in the ears as well as by the differences in the conformation of the animals. The red breeds and also the black breeds may be distinguished in a similar way. To test the ability of the pupils to recognize the breeds, ask them to identify the breeds represented on pages 8, 11 and 5, Bulletin No. 225.

Out-of-school exercises for the pupils. Using the following schedule, make a record of the swine seen at fall fairs or on farms during the next month.

DATE	BREED	NO. OF ANIMALS	OWNER

The Horse

Plan for a lesson on treatment of the horse before and during spring work.

Introduction: Discussion of the seasons of the year when horses have the hardest work. The spring work is the most trying upon the horse because he is "soft" from the winter's rest and from living on inferior diet. This discussion leads to the statement of aim.—To decide upon a proper mode of preparing the horse for the spring work and of caring for him during this season.

Matter	*Method*
Food is the source of the horse's energy.	What is supplied to an engine to give it energy for drawing the train? What is supplied to the horse to give it energy for drawing the plow?
The horse can store only small quantities of food. To create enough energy this food must be strong.	What part of the body of a cow or sheep grows larger and larger when the animal is eating a heavy meal of grass? Is this part of the body of the horse as large in proportion? Has the horse a large or a small store space in his body for food? To create sufficient energy this food must be concentrated just as coal is a concentrated fuel.
Ration: Clean timothy and clover hay 12 to 20 lbs. Grain, 5 parts oats to 1 part bran, 15-20 lbs. per day. Feed ¼ of ration in morning. " ¼ " " at noon. " ½ " " in evening.	The pupils are asked to describe the ordinary modes of feeding work horses. The teacher accepts or modifies until there is placed before the pupils a type ration; the daily hay ration being 1 lb. per each 100 lbs. live weight of horse and the grain ration 1¼ lbs. per each 100 lbs. weight of horse.
The change from winter diet to the working diet must be made gradually. The full fare is reached only after heavy steady work has begun.	Since the horse was fed upon straw and turnips during the winter, can the diet be suddenly changed to that required for heavy work? No. No animal is more readily caused to become ill from indigestion arising from sudden changes in diet.
Prepare the horse by light hauling for short periods as by hauling manure and plowing for only a few hours per day for the first few days.	When you have not played foot-ball for a long time and you begin with a long, hard game. What is the effect upon your body? What is the proper way to begin the season's play? Should the horse be put suddenly into steady, hard work or should he be gradually trained? Suggest ways of giving gradual training.

Matter	*Method*
The shoulders, feet and legs bear heavy strains.	What parts of the horse's body bear the heaviest pull of the load?
Bathe shoulders with salt and water every day for at least a week before work begins. Fit the collar; use a sweat pad if the collar is too loose.	What causes large sores on the shoulders and withers of horses? If the skin is made tougher will these sores be prevented? Do well-fitting collars or loose collars cause the larger sores?
Pare the hoofs to a proper shape or better still, have the horse properly shod.	Horses' hoofs are frequently long and irregular in the spring. Will such hoofs break easily? What treatment? Discuss the uses of shoes.
Allow the horse to drink only a small amount of water when he comes in warm from work. This should be drunk slowly. Another light drink before going to work.	Do horses that have been working hard drink much water? Discuss with the pupils the harmfulness to the animal of hearty drinking when warm or before being driven hard. Place before them the rules that are generally accepted.
Good grooming keeps the horse sleek. It also improves his vigour.	What effect has good grooming upon the horse's coat? Are horses with good coats healthier and better spirited than those with unkempt coats?
The horse's legs should be rubbed dry when it comes into the stable. This prevents joint diseases.	What bad effects come when a boy allows his feet and legs to remain in wet shoes and trousers? Do you think it is good for a horse to stand in the stable with wet and muddy feet?

To the Teacher.—The story of Black Beauty should be read in connection with lessons on the horse. Information useful in the preparation of lessons upon the horse and also upon other domestic animals can be found in Harper's *Manual of Farm Animals*, published by MacMillan Co.

Expressive Reading

ADRIAN MACDONALD
Peterborough Normal School

THE public school teacher who is dissatisfied with her pupils' oral reading and wishes to improve it, must first discover the cause of the deficiency. Just as a doctor diagnoses a patient's disease before he attempts to cure it, so she must search for the source of her pupils' trouble. Labour expended by her in the wrong direction is as

useless and harmful as medicine administered wrongly. Blind teaching will accomplish no good results.

The teacher's task of diagnosis in this case is, however, much simpler than the doctor's. Whereas the doctor's patient may be suffering from one of a hundred different diseases, ninety-nine per cent. of the cases of bad reading can be explained without going beyond two fundamental causes. The poor reader either is not recognizing the words of his lesson quickly enough, or is not thinking of what he is reading. When once a teacher comes to understand that she need go no further than these two causes to explain unintelligent reading her task is much simplified. As a rule it is an easy matter to decide which of these two causes is operative in a particular case, though sometimes, of course, it may be both.

The teacher's fault usually is that she tries to explain a child's crude and monotonous reading in another way. She assumes that the correct manner of expression is not known to the child, and as a result she spends a great deal of time trying to get him to raise his voice here, drop it there, emphasise a particular word, and pay special attention to the punctuation. But she is quite wrong. Even before he is able to talk a child can use the right inflexion and emphasis to express his simple thoughts. In his ordinary speech there is no lack of what we call expression. If you doubt this statement listen to the children expressing pleasure or surprise, anxiety or relief during a pause in the music at a movie matinee. The finer nuances of a Shakspearean actor are, of course, beyond a child's power, but so are the thoughts and emotions of the Shakspearean drama. The thoughts and emotions of such simple pieces as are within his grasp a child can express readily enough, if he can recognize the words quickly and is thinking of what he is reading.

There is far too much fuss about the ordinary reading lesson. Johnny fails to use the proper inflexion at a period, and the teacher demands, "What mark is that?"

"A period", Johnny meekly replies.

"What should one do at a period?"

"Drop their voice."

"Read that sentence again then and watch the period."

Johnny reads once more worse than ever. Again and again, patiently or impatiently, the teacher calls on him to watch the commas and periods, until Johnny's mind is a polka-dotted expanse, and the thought he is trying to express is miles and miles away.

Let it be said once for all that insistence on the elements of vocal expression and punctuation with public school children will produce only monotonous intonation or the utmost artificiality.

If the cause of the child's bad reading is his inability to recognize the words quickly enough—and he must recognize them very quickly in

order to read with any freedom—the method of correction is simple. He must be drilled on he words either on the blackboard or in his book. If the class is large the teacher may write the words on the blackboard and drill on them there, or she may ask for the words as they stand in the book—"What is the first word in the line?" "The last?" "What word comes after this?" "And before that?" In a rural school where the class is small she may simply point to the words in the child's own book.

When pupils are poor readers, no matter what grade they are in, the teacher should deal with one sentence at a time. If she does this, questioning on the words is simple enough.

When once a child can recognize the words of a lesson with fair rapidity, there are two outstanding causes for his failure to think intelligently of its meaning. In the first place the fault may be in his limited mental powers. His interpretation of a given passage may be lame and halting, and his imagination slow. To help him the teacher should ask questions which would force him to get the gist of the sentence before he attempts to read it orally. If the sentence were, for instance, "The jackal was exceedingly fond of shellfish, especially of river crabs", the teacher might ask the following questions: "Whom is this sentence about?" "What was he fond of?" "What kind of shellfish did he like especially?"

These questions should be asked by the teacher as if the several points were of real importance. If she lets herself appear to be uninterested in the details of the reading lesson, she cannot expect her pupils to be otherwise. Let her ask the questions with zest, as if she were talking of real creatures doing real things.

In no case should a child who is a poor reader be permitted to attempt a sentence orally before he has looked carefully at all the words and has grasped the meaning. When we ourselves are reading, this preliminary task of recognizing the words and grasping the meaning goes on just ahead of the voice. But with the child who is still finding difficulties with the mechanics of reading, the processes should be separated.

In the second place the child may fail to give thought to what he is reading simply because he is bored. How can we expect a child to retain any interest in a piece after he has read it at home, during the literature period, at his seat and in oral reading upwards of twenty times? Frequently a pupils sing-song reading is due to nothing else than the fact that he has been over the selection too often. In order that a child may read a passage well he must find in it a degree of freshness. Here again, the more a teacher labours with a pupil the worse he becomes. When the freshness is gone the reading invariably becomes mechanical.

When a teacher sees the interest in a certain lesson begin to flag, let her pass on to something new. She may drop the piece altogether and proceed with the next lesson in the reader, she may take a short bright lesson from the blackboard, or she may have the class read aloud from one of the supplementary books. What she desires is intelligent reading and the mark of intelligence is that it is always searching out new worlds to conquer.

As a special device dramatization is very helpful. When a narrative lends itself to being acted the pupils may arrange the stage, choose the characters and play the parts. Nothing will more quickly get them into the spirit of the story. Even when a selection is unsuited to complete dramatization the device may be profitably used in a limited way. A pupil, for instance, gets the wrong tone in a statement; let him make the statement naturally to his teacher. Or he may not have the right inflexion in a question; in which case he should turn and ask the question naturally of his neighbour. All questions do not take a rising inflexion, and there is no rule which will help a reader to determine when they should.

There is one thing, however, which more than anything else will help the oral reading—that is extensive silent reading for pleasure. That pupil who frequents the public or school library, and reads a great deal for his own enjoyment is almost invariably the best reader in the class. And when a pupil reads very little for himself beyond the reader he is bound to make a pretty poor fist of oral reading no matter how much his teacher may labour over him in class. If a teacher encourages her pupils to read children's papers and children's books she will find that they teach themselves more about oral reading than she can ever hope to teach them in class; and in doing so they will accomplish something even more desirable—they will develop a taste for general reading.

Music in Public Schools

A. T. CRINGAN, MUS. BAC.

(NOTE.—This is the first of a series of six articles by Mr. Cringan on music in the public schools. The articles to follow will give aid in the practical difficulties that beset the classroom teacher in the public schools.)

DURING recent years a most gratifying increase of interest in the teaching of music in the public schools of Ontario has been manifested. This has been more perceptible in the cities and larger towns than in rural districts. In the larger centres where it has been possible to engage a special teacher, or supervisor of music, the

problem of how to organize the teaching of this important subject in order to secure satisfactory results has been comparatively easy of solution. However gratifying the increase of interest in music may be, the fact must be recognized that the teaching of music in our schools is still far from being general. At a meeting of the Music Supervisors' Section of the Ontario Educational Association, held two years ago, the question of the extent to which music teaching had been adopted in the schools throughout the Province was considered. It developed that, in the opinion of the music teachers of the various Normal Schools who were present, the proportion of students who had received any training in music as part of their public school course, was about fifteen or twenty per cent. This conclusion, by those qualified to give an authoritative opinion on the subject, provides a definite indication of what remains to be accomplished before we can fairly claim that music is honestly recognized as an essential subject on the curricula of our public schools.

It would seem that many school trustees and teachers have failed to realise that music is not now, as it was for many years, an optional subject. In the Departmental Regulations for Public and Separate Schools it is stated definitely that "The courses in Hygiene, Physical Culture, Nature Study, and Vocal Music are *obligatory* and shall be taken up as prescribed,"—"or may be omitted as the Principal may deem necessary in the condition of his school." The latter clause is "subject to modification by the Inspector" and is the only justification that may legally be offered for failure to include the teaching of Vocal Music in the regular school course. To assume that the sole reason why Vocal Music is not taught in many schools is that the Principal has deemed it necessary, in the condition of his school, that it be omitted from the syllabus, would be manifestly unfair. It is doubtful whether there are many Principals lacking in desire that music should be accorded a place in the syllabus of their schools. From long personal experience with school Principals and Inspectors throughout the province, I am convinced that this desire is not lacking but is much more general than is usually supposed.

In order to improve the situation and create an increased interest in the teaching of music in our schools, the various causes contributing to its apparent neglect must be sought for and a remedy prescribed, wherever possible. Chief among these will be found a lack of confidence in their ability to teach this subject, on the part of many teachers, and the impression that there is no time for music teaching, in view of the many other subjects, considered of greater importance, which are recognized as essential.

The lack of confidence referred to is easily explained when it is

considered with reference to the comparatively short time devoted to the study of Music during the years spent in training for the teaching profession. Students may enter upon their Normal School course without any training in Music, whereas most of the subjects comprising the Normal School curriculum have been studied to some extent during the years spent in the Public and High Schools. An average of two lessons per week, during a term of eight months can scarcely be considered adequate to enable students to master the technique and theory of Vocal Music, apart altogether from the knowledge of method necessary to enable them to teach the subject successfully to others. In spite of the meagre nature of their preparation many young teachers are achieving surprising results in music teaching, in communities where needful encouragement is given. In cases where their efforts are supplemented by assistance from special teachers, or supervisor, the majority of Normal School graduates soon become fairly expert in teaching the subject and confidence in their ability increases with success.

The objection that there is no time to spare for the teaching of music on account of the crowded condition of the time-table is an old one, quite a hardy perennial, in fact. It was urged by the teachers in some of our larger cities twenty, thirty, or even forty years ago. Were anyone to suggest to the teachers who have had a real experience of the benefits to be derived from the teaching of music in schools, that the subject be discontinued, there would be a most decided chorus of protest. They have realised that no other subject can do so much to brighten the atmosphere of the school room and make the work run smoothly and effectively. While visiting a school in one of our smaller towns, some time ago, I was impressed with the excellent work done by the pupils in singing and general musical culture. There was no uncertainty as to the interest of the pupils or their enjoyment of their musical studies. The Principal was questioned as to the effect of music study on the general work of the school. He expressed the opinion that "Music makes the other subjects more easily taught and that it had a most beneficial influence on discipline and general morals of the pupils." Later, I learned that twenty-seven pupils from his class had entered the examinations for Entrance, of whom all had passed, twenty-one of them with honours. In a newspaper report of an address given by the Principal of one of the largest schools in Toronto, it was stated that he had informed his audience that there had not been a single case of corporal punishment recorded in his school, of thrity-six rooms, during the previous three months. This satisfactory condition of affairs, he attributed to the influence of music and sports on the discipline of the school.

The success which has attended the effort to teach music in towns

and cities in which a special teacher, or supervisor, is engaged, has led to the adoption of a modification of this plan in many localities where it would not be practicable to engage the services of a qualified supervisor for the entire school time. Some supervisors have succeeded in arousing interest in music teaching sufficient to induce the school trustees of three or four adjacent towns to arrange for the partial time of a supervisor, who visits the schools in each town once or twice a week as arranged. The assistance given by the visiting supervisor enables the regular teachers to carry on the daily music lessons in the same manner as in cities having one or more supervisors. The one obstacle in the way of general adoption of this plan lies in the difficulty of securing the co-operation of trustees of schools in a number of detached communities. The supervisor is required to make a separate contract with each School Board, a matter not always easy of accomplishment. Were the affairs of our rural schools administered by a Township Board of Education, or a County Board, as suggested by the Inspectors' Section of the O.E.A., in 1920, matters would be greatly simplified. It would then be possible for the Central Board to engage one or more supervisors, in music and other subjects, and assign each to certain schools within a prescribed district, as is done in cities having a number of supervisors.

However, we have to deal with conditions as we find them at present. In many smaller towns and rural centres the engagement of a special teacher of Music, Art, Domestic Science, or Physical Culture is impracticable. The cost would seem to be prohibitive. This is overcome to a certain extent by the engagement of a teacher holding specialist qualifications in two or more subjects. The results in such cases seem to be quite satisfactory.

In the smaller school centres the most practicable plan would seem to be an arrangement whereby a teacher is encouraged to take a course of training at the Summer School of Vocal Music. Should such teacher be successful in passing the examinations in Part I., she is placed in charge of the teaching of Music in all classes of the school in which she is regularly engaged. This usually entails the giving of one lesson per week in each class, the regular teacher carrying on the work during the other daily lessons. This provides expert assistance for the regular teachers with the distinct advantage of its being at all times readily available. This simple arrangement is working very satisfactorily in many of the towns and rural districts throughout the Province.

Although the Summer School of Vocal Music has been in existence for the past ten years, there would seem still to be many teachers uninformed as to its mission. The School is designed to assist teachers desiring to become duly qualified Teachers, or Supervisors, of Vocal

Music in the schools of Ontario. Any teacher holding a second class professional certificate may be admitted, on application to the Registrar of the Department of Education. The course of instruction comprises five weeks' attendance, commencing about the first week of July. At the conclusion of the term students of the first year are admitted to the examinations for Part I., and those of the second year to Part II. The former, if successful, are granted a certificate as "Elementary Teacher of Vocal Music," and the latter that of "Supervisor of Vocal Music." Should the holders of either of these certificates undertake the supervision of the teaching of Music in the schools in which they are engaged, they become eligible for a substantial money grant from the Department of Education. In addition to this grant to teachers, an additional grant is provided to School Boards, in school centres employing a qualified teacher, or supervisor. The object of this grant is to assist in providing suitable equipment, in music charts, instruments and books.

Previous to last summer the teachers in attendance at the Summer School of Vocal Music were not quite so fortunate as in some other branches, being required to defray their personal expenses for transportation and board. However, the Hon. Minister of Education was pleased to accord to the students of last year, a per diem allowance for board in addition to the amount expended on travelling expenses. The way is now open to all teachers who may desire to improve their knowledge of Music and Music Methods and a large increase in attendance at the Summer School is anticipated during the coming year.

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Games for a Primary Class

PLAY is a potent factor in stimulating a healthy physical and intellectual growth. It gives us healthy wholesome pleasure, and has underlying it a great vital principle in the development of child nature. The use of games for both children and adults has thus a deep significance both for the individual and for the community through the conservation of physical, mental and moral vitality.

The mental results derived from a period of games is well worth the time spent. Through orderly, well directed play the child unconsciously learns discipline, alertness, skill of hand, power of attention, quickness of perception. He expands his lungs, increases his circulation,

develops his muscles, awakens and refines his intellect in so happy a mood and with such an interest that he grows.

Through play the child learns obedience to law, courage, justice, and perseverance, which in after years may help him to "move mountains" of difficulties and become triumphant over life's fiercest opposition.

Play brings the girls and boys out of themselves, makes them one of a mass, conforming to the rules of the game as a citizen conforms to the rules of the country in which he lives. Every game is a training for good citizenship.

The game introduced at the end of a lesson need only take two or three minutes. It serves as a rest period.

The following games have been used in Primary Classes:

1. *Games of Imitation.* These develop the imagination and are a test of memory. They represent the following suggested list:—
(1) Home activities:—Washing, ironing, baking, sewing, sweeping, dusting.
(2) Industrial activities:—Fireman, carpenter, blacksmith.
(3) Seasonal activities:—Nutting, gathering apples in the fall; Jack Frost, toys, fort in winter; kites, trees in a storm, rain in spring; and swimming, picking flowers in summer.

2. *Rhythmic Exercises.* These may be correlated with language work. The teacher tells a story introducing activities. These may be carried on to music also.

Walking fast, slow; jumping, running, marching, ringing bells, hopping, clapping, beating drum, blowing bubbles, fairies skipping, birds flying, boats sailing, bugles blowing, climbing steep hills, imitating steam engines, smelling flowers, hammering, rabbits jumping, ducks waddling, elephant's walk, skating, rowing boats, bouncing balls, giants striding, dwarfs running, turkeys strutting, Indians walking, crowing roosters, blowing a feather, etc.

3. *Hen and Chickens.* Choose a leader to be the old hen, who goes out of the room. All the others sit at their desks, head bowed down. Touch four on the head. Immediately they become little chickens. The old hen is recalled and as she says, "Cluck! cluck!" the four wee chicks answer, "Peep! peep!" The mother hen tries to locate them by sound. The chick discovered first becomes the old hen. Other fowls and animals may be substituted.

4. *Good Morning Game.* One child is chosen as leader (Tom). He stands in front of the class with his back to the class; the teacher silently touches a child who says to the leader, "Good morning, Tom." The leader responds by saying, "Good morning, Mary." If the leader fails to recognize the voice of the pupil speaking, his place is taken by that child and the game continues. Ear training and concentration are helped by this game.

5. *Another Good Morning Game.* The teacher writes "Good morning, Harry." Harry, if he recognizes his name, rises and replies, "Good morning, Miss Blank." The teacher answers "Good morning, Harry" and substitutes another pupil's name. The children quickly learn their own names and are apt to be more polite.

6. *Bean Bag Game.* (*A ball may be substituted or even a book*). The class is arranged so that there are the same number of players in each row. A bean bag is placed on each front desk. At a given signal the occupant of the front seat passes it overhead to the pupil behind him, who passes it to the next and so on until it reaches the end of the row, when it is returned the same way. The row returning the bag to the front desk soonest, wins.

7. *Bean Bag Game.* Place a box in front of the room, Give each child of the first row a bean bag (or ball or other article). At a given signal the children run quietly around the room, dropping the bag into the box as they pass. Those failing to do so take their seat. The successful ones take their bags out and run with the next row. Continue until all have had a trial, increasing the distance of the "throw."

8. *Days of the Week Game.* Name first row across the room, Monday; second, Tuesday, etc. Teacher stands in front of room with rubber ball. As she bounces the ball she calls "Thursday." The row named Thursday run to the front. The child catching the ball takes the place of the teacher and the others return to their seats. The new teacher continues the game until the ball is caught.

9. *"Do This" and "Do That."* The leader stands in front of the players and assumes any position or imitates any action at the same time saying, "Do this!" and the others imitate immediately. Should the leader at any time say "Do that!" instead of "Do this!" any player who imitates the action performed must be seated. The leader may choose any positions that are familiar, such as arm movements, trunk bendings, standing on one foot, etc.

10. *"I saw" or "I have" Game.* Class stands in rows. The teacher asks the leader of row one, "What did you see?" He answers by suggesting some activity as "I saw a bird flying, I saw a chicken on one foot, I saw a horse galloping down the street, I saw a boy rolling a hoop. Each row in turn imitates its leader, following him around the room and back to place.

11. *Game for Alertness.* Draw a circle on the floor, call a child to run into the circle while you count to ten. If he succeeds in getting both feet into the circle before you finish counting he is safe, otherwise he is out of the game and must perform some other task as stand on one foot, crawl backwards, etc., before taking his seat.

12. *Charlie over the Water.* Players stand in a circle and join hands.

One player is chosen to be Charlie. He stands in the centre. The other players skip around him repeating or singing,

"Charlie over the water, Charlie over the sea,
Charlie caught a blackbird, can't catch me."

At the last word, the players stoop and Charlie tries to tag them before they reach that position. If successful, the player tagged changes place with him.

13. *Hickory, Dickory, Dock.* Repeat or sing the rhyme:
    (1) Hickory, Dickory, Dock (move arms to right, left, right in pendulum fashion, stamp right, left, on Dock).
    (2) The Mouse ran up the clock. (Run 4 steps forward).
    (3) The clock struck "One." (Pause a moment to listen. On "One" clap hands).
    (4) And down he ran. (Run 4 steps back to place).
    (5) Hickory, Dickory, Dock. (Swing arms right, left, right, stamp left, right).
14. *See-Saw, Marjory Daw.* Sing or repeat the rhyme:
    (1) "See Saw Marjory Daw." (Arms sideways, raise, sway body to left and right).
    (2) "Jack shall have a new master." (Partners join hands, skip forward 4 steps.)
    (3) "But he shall have but a penny a day." (Step left, point right toe forward, shaking right forefinger at partner and left hand on hip).
    (4) "Because he won't work any faster." (Join both hands with partner, skip around in 4 steps).

Other rhymes may be played by adapting suitable steps and postures to the words.

(*To be continued.*)

Language Training in Form II (Grades III and IV).

MISS KATE STURGEON
Orde St. Public School, Toronto

"Language is an expression of thought and language training is giving skill in self-expression—the expression of an individual's own experience, his own thoughts and feelings, his own way of looking at things." These experiences should be expressed simply, truthfully, and attractively. "To teach language is to stimulate and guide in the pupil, (1) thinking; (2) the clear expression of his thought to others."

The child finds his first language ideals in the words which he hears at home, on the street and playground and later on in school. Language correct or incorrect is a habit and habit is formed by repeated practice. It is recognized that the development of mind and the development of language are co-ordinate."

Let us notice some of the means used in developing the power of expression in the child. Be sure, first of all, that the child is really interested in what he is to say or write and you may rely on an eagerness on his part to tell something clearly and well.

1. The Ordinary Recitation

Since the child's efforts at any time to express himself should be regarded as composition, so the language used in all recitations should be given careful oversight. Require from the pupil complete, accurate statements in answer to your questions in all lessons. This will mean patience on your part at first, especially if the child has been accustomed to answering in words or phrases, but once the habit is formed it will be a great help to him in his language work. "Language is caught and not taught." Hence the necessity for and value of simple, clear, grammatical language on the part of the teacher.

2. Conversation Lessons

(a) Conversation lessons with the children in which they describe objects placed before them—a pen, a pencil, a ruler, a flower, etc. Ask (in the case of the pen) five simple questions and require complete statements in reply. Have five children tell five simple statements (or stories) about the pen—each child to represent one story. Each child will tell how his "story" began and ended.—e.g., Sam says, "The pen is about seven inches long," and adds, "My story began with a capital "T" and ended with a period." Then one child tells five "stories" about the pen, making a mark or tick on the blackboard for each "story" that she has told. The "stories" are counted and the pupil tells the class that if she had written the (big) "story" about the pen, she would have used five capital letters, five periods and five sentences.

(b) Conversation lessons in which the children tell of games that they have played, about something that has happened on the way to or from school. (Use the same method as above).

(c) Conversation lessons about pictures, using the pictures in our readers or mounted pictures, pictures illustrating games such as coasting, or skating. Question the children and require complete, accurate statements in reply. Have one child tell five or six "stories" about the picture using method in (a). Write on the blackboard new or difficult words used by teacher or pupil. Conversation lessons are a means rather than an end in themselves in our Second Form work.

3. Oral Reading Oral Reading from School Readers, Supplementary Readers or from blackboard. In the Junior I and Senior I Grades the child is at that stage where oral expression is the chief means at his command and though our Second Form work calls for progression past this stage, still oral work should not be neglected but systematic instruction should continue throughout the whole course. "As an aid to easy and correct pronunciation, oral reading is most important." Induce the children to read aloud at home.

4. Action Stories A child walks to the door, opens it and goes into the hall, knocks at the door, opens it, enters the room and returns to his seat. One pupil (in answer to teacher's question) tells what Sam did first. Another tells what he did next and so on. "Stories" (sentences) are checked off on the blackboard. Follow method used in conversation stories. This is good training in consecutive story-telling and arrangement of statements in logical sequence. The actions have to be repeated in the order in which they happened.

5. Story telling and Reading by the Teacher The teacher will prefer stories from history, or fairy tales which teach truths not facts, or stories of deeds of heroism in the past and present.

6. Memorization The memorizing of short poems is an excellent exercise to make the pupil familiar with new words.

7. Oral Reproduction The oral reproduction of stories (prose or poetry) by the children. Use the method of the conversation lesson. Have the children tell in their own words, "The Story of Sir Philip Sidney," "Androclus and the Lion," "One, Two, Three," "The Daring Froggie," etc. Let the children dramatize the stories. They love to act and their mental image of the story as a whole becomes much clearer after the little dramatization.

8. Correlation with Art Encourage the expression of ideas in drawing, modelling with plasticine, and constructive exercises (paper cutting, etc.). Each means of expression contributes to clear seeing. The child can better describe in words what he has drawn, painted or made.

9. Transcription Supervised transcription from Readers, or blackboard work—as a preparation for written work. Our dictation lessons are a means of teaching correct usage through eye and ear as well as through motor images required in writing.

10. Written Work Written reproduction of stories, letter writing, the writing of original stories all find a place in language work in Form II. Pupils reproduce short stories which they have read. Following a lesson on "Tea" pupils may impersonate a tea-leaf and write "The Story of a Tea Leaf."

Literature.—Form III (Grade VI)

THE SANDPIPER

What reasons have you for reading this poem to your class? What points of interest have you aroused in the minds of your pupils which will give them a purpose in reading it? To secure these ends the following method of approach is suggested:

Refer to a previous lesson, Professor Frog's Lecture, with which the pupils of this grade are all familiar. They will remember that Bobby starts out with the idea that toads and frogs exist merely for his and other boys' sport, but at the conclusion of the story he is greatly impressed by their usefulness to mankind. Place these two opinions on the blackboard thus:

(a) Some people seem to believe that Nature's creatures exist merely for their sport.

(b) Others think that they exist rather for man's use.

Now tell your pupils that still another opinion on this subject is expressed in a short poem entitled, The Sandpiper, which they may find in their Readers on page 234. Let us see if we can find out what view the writer of this particular poem holds and at the same time be on the look out for any circumstances which might help to explain the relationship existing between the poet and the sandpiper.

The teacher should now read the poem himself, remembering that much depends upon his own appreciation. "Thought kindles at the living fire of thought, but how shall he give kindling, in whose inward man, there is no live coal?"

General questions will follow, such as:

Q. What relationship exists between the poet and the bird?

A. They are friends.

Q. Where is this best expressed? A. (1) "Staunch friends are we, well-tried and strong." (2) "Comrade."

Q. Judging from the circumstances as described in stanza I., how would you account for their friendship? A. They share a common feeling of loneliness. This can be developed easily from the repetition of the line, "*One* little sandpiper and *I*, and from the loneliness of the scene as presented by such expressions as "The wild waves reach their hands for it," "The wild wind raves, the tide runs high."

A similar line of questioning will establish the fact that each stanza gives an added reason, strengthening this feeling of comradeship.

At the conclusion of this stage in the development of the lesson, the blackboard might show the following points:

The Poet and the Sandpiper are Companions.

1. They share a common feeling of loneliness—Stanza I.
2. They share a common feeling of danger—Stanza II.
3. They share a common feeling of trust or confidence—Stanza III.
4. They have a common Protector—Stanza IV.

Detailed Study of the Poem.

Lack of space demands brevity, consequently the detailed study as here suggested may seem to be entirely inadequate.

In Stanza I., help the pupils to picture out the lonely scene there presented, making full use of lines 5 and 6.

In Stanza II., add to this picture the details which show how the violence of the storm has increased.

In Stanza III., discuss the appropriateness of the word "skim" and compare it with "flit" in Stanza I. Notice how the line "Uttering his sweet and mournful cry" increases the reader's sympathy for the little bird. Note also how the sound conveys the sense in "fitful song, or flash of fluttering drapery."

In Stanza IV., bring out the contrast between "my driftwood fire" and "To what warm shelter canst thou fly?" Try to impart some sense of the force and beauty of the description in which "the loosed storm breaks furiously" and "The tempest rushes through the sky."

At the conclusion of this lesson many of your pupils may prefer the idea that "Nature's creatures make pleasant companions" to either of the other two ideas which were expressed at the beginning of the lesson, but whether they do or not, whatever you do, do not moralize or try to force any opinion, but rather, when all has been taught, have different pupils read aloud to test their appreciation, for it is chiefly through reading that appreciation can be tested.

W.L.C.R.

Literature in Form IV.—(Grade VIII)

Foreword

What is the essential qualification of the teacher of literature? Is it a knowledge of literature and particularly a knowledge of its nature and purpose, or, is it a knowledge of principle and method? However essential the latter may be—and no one can gainsay its importance—undoubtedly a realization of the nature and purpose of literature is the teacher's prime requisite.

The great makers of literature are those who have seen the wonderful in the commonplace. They have seen and felt the miraculous interestingness of the universe. They are the psalmists to whom the heavens

declare the glory of God, not the Peter Bells to whom the primrose by the river's brim is a yellow primrose and nothing more. Their vision is so clear, their feelings are so intense, their zeal is so fervent, that they are compelled to impart their discovery to others. Their very sincerity does succeed in making some persons at least, participate in their vision and emotions. As is the case in all real experience, those who thus participate must suffer the consequences of their acts. A new meaning, a rarer beauty, a deeper sacredness has been added to their own kindred experiences.

THE SOLITARY REAPER—Fourth Reader, p. 261.

Central idea:—

(1) "I saw her singing at her work."

Cf. Longfellow, "And his heart was at his work, and the heart addeth grace unto every act."

Carlyle—Honourable Toil. Fourth Reader, last paragraph, p. 392.

(2) The permanent joy which the vision of "The Happy Labourer" brought to the heart of Wordsworth.

It will be noted, therefore, that the literature of this selection does not consist in having the pupils give dictionary meanings for *solitary*, *chaunt*, *welcome notes*, etc. (These words have been actually chosen from an old Fourth Reader in which they are heavily underscored). Nor does it consist in having them point out in their geographies the exact location of Arabia and the Hebrides, nor in having the pupils lavish their love upon a stuffed specimen of the cuckoo bird. But it does consist in having the pupils' eyes unlidded to the beauty and strangeness of the Highland lass, in having their eyes unstopped to the exquisite music of her song, in having their lives attuned to that of "The Happy Labourer," "The Peasant Saint."

Stanza 1. As is suggested above, Wordsworth really asks his companions—and his readers—if their eyes are unlidded, if their ears are unstopped to the wonderful beauty and strangeness of the girl and of her song. Perhaps the most significant words in the stanza are "Behold her" and "O listen!"

"*Behold her*"—Does it mean simply "Do you see her?"

It means "Isn't she wonderful?" "Isn't she miraculous?"

Cf. "Such forms as from their coverts peep,
When earthly cares are laid asleep."

"*Single. . . . herself.*" Do her surroundings and her occupation add to or detract from her beauty?

In what way?

"*Stop....pass.*" Why? Does it suggest that we are in the presence of the supernatural, that we are standing on holy ground, that her consciousness of our presence would immediately cause the beauty of the scene to disappear?

"*Alone....strain.*" See above, "Single"...."Herself"

"*O listen!*" See above, "Behold her."

Stanza 2. Wordsworth endeavours to show through comparison the wonderful joy and gladness which the girl's song brought into the heart. Study these comparisons, therefore, with that purpose in view, not as pieces of geography.

"*No....sands.*" Could anything be more welcome to a weary worn traveller in a distant land than thoughts of home? Could you suggest a more ideal stimulus for such thoughts—especially to an Englishman—than the song of the nightingale?

"*A voice....*Hebrides." Could anything convey a more exhilarating joy to the isolated individual than opportunity for companionship?

Have your pupils endeavour to get illustrations which will convey the above ideas in a more forceful way. That will show them their real strength and particularly the effect of the song on Wordsworth.

Stanza 3. A query as to the message of the song. Is it the poet's real endeavour to get the theme, the content, of the girl's song; or, is his endeavour to develop "an atmosphere" by arousing curiosity and suspense, by awakening thought and emotion in the heart and mind of the reader? Endeavour to develop the right atmosphere in your class and the meanings of the words and phrases in this stanza will largely take care of themselves.

Stanza 4. "The Happy Labourer." "The Peasant Saint."

"*Whate'er....theme.*" The theme of the song is not important.

"*The....bending.*" The important thing is that she was happy at her work.

"*I....more.*" The permanency of the joy which the experience brought into Wordsworth's life.

F.E.C.

Geography in the Grades

For the Second Form (Grade IV)

Studies of the Weather. Before the class takes up the topics of rain, snow, wind, and clouds, they should observe the weather for

at least a month. This can best be done by writing the following directions on the black-board: In your note-book make a table with the following headings:—

Date	Temperature	Wind		Sky	Rain or Snow	Remarks
		Direction	Strength			

Every evening make an entry under each of these headings. Observe the direction of the wind from the smoke coming out of a chimney. Use the following terms to describe the force of the wind: (1) *light*, just moving causing a slight motion of a flag; (2) *moderate*, moving the twigs on trees; (3) *brisk*, swaying whole branches; (4) *high*, swaying whole trees; (5) *gale*, breaking small branches. Insert *calm* where there is no wind. If a thermometer is available insert the exact temperature, otherwise such adjectives as hot, warm, mild, cool, cold, and very cold. Under sky state whether clear, partly cloudy, or cloudy. Under rain or snow state how long either fell, and its character. Any other interesting remarks, such as a fog, a rainbow, a thunder-storm, hail, etc., can be added. These records should be kept for at least a month. Most teachers fail to make any use of the records after the pupils have made them and consequently their chief value is lost. After a month or two months of such records have been made ask the pupils to answer the following questions from studying their records: How many clear days were there? What was the direction and strength of wind on clear days? How many cold days were there? Was the sky usually clear or cloudy on the cold days? What was the direction of the wind on the cold days? How many rainy days were there? What was the direction of the wind during the rainy days? What kind of weather usually followed the rainy days? Then as a final drill ask the class to state all the relations they can between the winds and weather.

As a result of their observations the pupils should find that west and north-west winds bring clear weather, that east winds bring rain and cloudy weather, and that very cold weather is usually clear and either comparatively calm or accompanied by north or north-west winds.

This work is suitable not only for Second Classes but also for third and fourth classes. G. A. C.

For the Third Form (Grade VI)

The Manufactures of Ontario. Ask each pupil to make a list of all the manufactured articles about his home, such as stoves, furnaces, pianos, organs, furniture of different kinds, garments of different kinds, boots and shoes, baking-powder, mustard, casks of sugar, flour, cereals, chocolate bars, cutlery, dishes of different kinds, silverwear, wagons, buggies, agricultural implements of all kinds, automobiles, threshing machines, etc. Let each search for the maker and especially the town and city in which it was made and put this after each article. The name of the place of manufacture can usually be found on a label or wrapper or somewhere else on almost every article. After the pupils have made these lists, the names of the articles can be placed on the board by the teacher and after it is placed the names of all the places in Ontario at which the pupils have found it is manufactured. From the frequency with which each place is mentioned some idea of the manufacturing in each location can be formed. Then let each pupil draw a map of Ontario, place in all the towns or cities that have been mentioned, and after the name the articles that are manufactured in it. From the position of these manufacturing towns, let the pupils judge which are the industrial parts of the province and shade them blue. Next mark after each product in the list, the raw materials from which it is made and where this raw material was obtained. Then try to draw a conclusion as to why these parts of Ontario have become developed industrially. In drawing such a conclusion it will be well to consider such facts as the following: (1) Manufacturing usually develops where there is a large local market. This partially explains the location of industry in Western Ontario, where there was a large agricultural population to buy the articles and it also partially explains the nature of the manufactures. These are chiefly such articles as an agricultural population use, as agricultural implements, wagons, etc., or such articles as are made from raw materials of the neighbourhood, such as furniture and other articles of wood, flour, cereals, leather, and boot and shoes. (2) Manufacturing develops where transportation facilities are good. The manufacturing towns are generally on or near the Great Lakes or where they are served by several railways. (3) Manufactures develop where power—either coal or hydro-electric is abundant and cheap. The cheap water-power partially explains the development of the towns near or in the Niagara Peninsula, and of Peterborough, Cornwall and Sault Ste. Marie.

G. A. C.

For the Fourth Form (Grade VIII)

References are to the *Ontario School Geography.*

The Geography of the Prairie Provinces. Do not treat these provinces separately. They are a unit and should be studied as such and in this way much repetition is avoided. Further, instead of dealing with them in the logical manner: position, extent, surface, climate, etc., select the most important geographical fact of the whole region and build up the geography about it. This topic is wheat growing. Give each pupil the following exercise on wheat production. It can be written on the board. Examine the surface of the Prairie Provinces as shown in physical map of North America. Which part is lowest? Which is highest? What is the general direction of the slope? Generally speaking, is the surface rough or flat? What part has the greatest rainfall (rainfall map, page 40). How does the rainfall compare with that of Ontario? Wheat for best growth requires cool, moist springs, and bright, warm, dry ripening season. Which of these conditions obtain in the Prairie Provinces? In which part of the Prairie Provinces is wheat grown most extensively (map, page 81)? Where are railways most numerous? Why is little wheat grown in South-west Alberta? What is the relation between the position of wheat areas and the position of the railways? (maps, pages 81 and 138, 139). What building material is sure to be expensive in the Prairie Provinces? Hence suggest a reason why farmers store grain in elevators and do not have granaries. Why are buildings necessary for the raising of cattle in these provinces? Which kind of farming requires more capital, grain-raising or mixed farming? Which is likely to be carried on most extensively in a newly-opened district?

After pupils have worked over as much as possible of the above exercise for themselves, then discuss in class the growing of wheat in the Prairie Provinces. The following relationship should be worked out. The soil is mainly a fertile clay loam, which is especially suited to the growth of wheat, while the flatness of the region and the absence of forests make the land extremely easy to break up and cultivate. In the second place the climate is of such a character as to produce not only an abundant crop but also the best quality of wheat grown anywhere in the world. Though the rainfall is light, it occurs most copiously in the Spring and early summer, just when the crop requires it to make each plant send up many vigorous branches from the main stem; and in late summer the dry weather and bright sunshine produce a large, hard wheat grain. Although the climate is favourable in most respects for the growth of wheat, there are two ugly factors that have been the cause of much damage to crops. Hailstorms occasionally come in June or early

July and cut down the tender plants. And much worse than these are the early Autumn frosts, one of which may do millions of dollars' worth of damage in a single night.

When wheat is harvested it is not stored in granaries as in Eastern Canada, for lumber is dear. It is taken to elevators, which are situated at almost every railway station. From these elevators it is shipped eastward to Winnipeg, Port Arthur and Fort William. The railways are concentrated in the grain areas. The chief towns and cities are located at the railway centres and act as collecting and distributing centres. The rivers are of no use for navigation.

G. A. C.

A Picture Study

FOR THE FOURTH FORM (GRADE VIII)

The picture selected for study should be chosen because of its appeal to the age, experience, and knowledge of the children who are to study it. Fourth Form children in their own drawings, have been attempting to arrange small groups of objects to express a unity in which one part will dominate the rest, to keep the light, shade and shadows consistent with the source of light, to express depth, textures and values. A few carefully worded questions will set eye and mind to work to discover how the artist has solved these problems in the picture chosen for study. If the structure of the picture be studied first, it will be comparatively easy afterwards to determine the story which the artist seeks to tell, or the impression which he desires to make.

In conducting a study of the accompanying picture by Erskine Nicol, the following questions will be found useful:—

I. STRUCTURAL.

(1) (*a*) What is the *most* interesting part of this picture?
(*b*) *How* has the artist managed to make this the most interesting part of the picture?
(Consider size, shape, position, tone, dress, attitude, features, leading lines, etc.).

(2) (*a*) Name the principal details of the picture.
(*b*) Show what each contributes to the interest of the picture.

(3) (*a*) Describe the source and direction of the light.
(*b*) Give a few definite examples to show the correctness of your answer.

(4) Point out the indications of:—(*a*) depth, (*b*) texture, (*c*) values.

II. The Story.

(1) What is the relationship existing between the woman and the boy?
(2) What is their nationality?
(3) What is the subject of their interview?
(4) What emotions are suggested by the attitude and the countenances of each?

A Picture Study for the Fourth Form

(5) Give the picture a suitable title.

(1) The *aged woman* is the most interesting part of this picture. She occupies a triangular area about one-half of the whole area of the

picture. She is placed in the foreground near the centre of the picture. The light tones of most of her figure make her prominent by their contrast with the dark background. Her attitude is striking, the left hand seeming to be in action to emphasize what she is saying. The full-face view affords a better opportunity than a side-view to judge of character. She is the magnet which has drawn the boy, and the lines of the picture for the most part centre in her.

(2) The *boy* is needed to explain the attitude and features of the aged woman. He stands at the confessional provided by the affection of his true friend. In mutual confidence their right hands meet. His left hand rests in the pocket of a much-mended jacket from which he has voluntarily surrendered the *fruit* which now rests on the box. What boy does not catch the appeal of this picture as he remembers the discomfort of the possession of the forbidden fruit and the peace that came from the confidence he reposed concerning it in his best friend?

The *skein* of yarn on her lap and the knitting *needles* under her right arm suggest the occupation of knitting.

(3) An examination of the position of the *light and shade*, the high-lights and the shadows tells us that sunlight is coming into this room from a point to the left of the picture, slightly to the front and obliquely from above. The high-lights upon the fruit and needles, the shadow cast by the woman's cap on her face, by her face upon her cap, the light on the front of the box, on the face of the woman and of the boy, alternate with the shade on the right of the box, and on the faces of the woman and boy.

(4) *Depth* is given to the picture by the receding lines of the great chest which converge to an eye-level about the woman's eyes, by the darkness of the interior, and by the distant window beyond the cupboard giving a view of the open.

Varieties of *texture* are indicated by the course weave of the cloth in the boy's jacket and the woman's dress, by the fineness of her lawn head-dress and of her brocaded shawl, by the curls in the boy's hair, by the strands in the skein of yarn and by the grain of the wood in the box.

Values are shown in the pleasing contrast between the light head-dress and the widow's dark band about it, between the little white collar and the dark suit on the boy, between the light shawl and the dark skirt of the woman, between the dark wall and the window opening.

II. The *relationship* is that of grandmother and grandson. The Scotch cap hanging on the wall, the one on the boy's head, and the boy's plaid skirt suggest Scotch *nationality*.

The probable *subject of this interview* is some wrongful deed (suggested by the fruit on the box) or word on the part of the boy.

The woman's face is expressive of keen *sorrow*; the downcast look of the boy reflects the *misery* he feels over the wrong for which he is suffering reproof and receiving counsel.

A suitable title for the picture would be:—

A Kind Reproof.
Age Counselling Youth.
Confession and Counsel.
Sorrow for Wrong-doing.
Always Tell the Truth. (The painter's title).

S. W. P.

The Round Table

(1) *Would you kindly give in the columns of "THE SCHOOL" a complete list of the countries and capitals of New Europe?*

The following list gives the countries, population, capitals and area in square miles. Esthonia now appears in *Whitaker's Almanac* as an autonomous government in Russia.

Countries of Europe	*Area*	*Population*	*Capitals*
Belgium	12,000	8,000,000	Brussels
France	213,000	41,500,000	Paris
Netherlands	13,000	6,400,000	Amsterdam
Norway	125,000	2,600,000	Christiania
United Kingdom	122,000	47,000,000	London
Portugal	35,000	5,700,000	Lisbon
Spain	195,000	20,500,000	Madrid
Austria	32,000	6,500,000	Vienna
Bulgaria	41,000	5,000,000	Sofia
Czecho-Slovakia	56,000	14,000,000	Prague
Denmark	16,000	2,900,000	Copenhagen
Yugo-Slavia	97,000	10,000,000	Belgrade
Finland	126,000	3,700,000	Helsingfor
Germany	179,000	64,000,000	Berlin
Hungary	35,000	9,000,000	Budapest
Greece	51,000	7,000,000	Athens
Poland	160,000	40,000,000	Warsaw
Russia	1,600,000	86,000,000	Petrograd
Rumania	115,000	17,500,000	Bucharest
Albania	11,000	900,000	Durazzo
Latvia	20,000	1,500,000	Riga
Lithuania	15,000	2,500,000	Vilna
Ukraine	216,000	25,000,000	Kieff

Countries of Europe	*Area*	*Population*	*Capitals*
Luxemburg	1,000	260,000	Luxemburg
Switzerland	16,000	4,000,000	Berne
Italy	120,000	38,000,000	Rome

(2) "*Will you please give me the names of a few books containing short plays suitable for schools?*"

Form-Room Plays—Junior, Toronto, J. M. Dent & Sons Ltd. 50 cents.

Form-Room Plays—Senior, Toronto, J. M. Dent & Sons Ltd. 50 cents.

Simmons & Orr, *Dramatization*, Chicago, Scott Foresman & Co.

Frances Gillespie Weekes, *A Child's Book of Holiday Plays*, Toronto, The Macmillan Co. of Canada, Ltd. 95 cents.

Headland and Treble, *A Dramatic Reader, Books I, II and III*, Toronto, Oxford University Press. 75 cents each.

The first three of these books contain many dramatizations made from well-known English classics. The fourth book contains plays written for small children. The set of three books mentioned last contains a large number of dramatized episodes from legends and novels, and scenes from well-known plays.

(3) "*What is the best way of placing prose models before a class?*"

The easiest way of placing such models before a class is to use a suitable book. The Ontario High School Composition contains many models suitable for use in the Lower School. In the Upper School, text-books are not prescribed and there are many to choose from. For the Middle School there is no authorized text, and the teacher cannot ask the pupil to buy an unauthorized one. There are two ways out of the difficulty. Enough copies of a text might be placed in the library to supply one to each member of the class for supplementary work. This plan is followed by some schools, not only in connection with composition, but in such subjects as literature, history and the foreign languages. Another excellent plan is to print good models as they are required, by means of some rotary printing machine. In some ways this is the most effective plan, as the teacher has the widest possible choice of material. The extra labour involved is probably more than compensated for by the variety and freshness of the extracts chosen. No teacher of English or history should be content without the use of an effective printing machine, such as the Neostyle, the Mimeograph, or the Roneo. The following books contain many good prose models:

Alexander and Libby, *Composition from Models* (New Edition). The Copp, Clark Co., Ltd.

Treble, *English Prose: Narrative, Descriptive and Dramatic*, Oxford University Press. 75 cents,

Duncan, Beck and Graves, *Prose Selections*, D. C. Heath & Co.

Linn, *Illustrative Examples*, Scribners.

Nutter, Hersey and Greenough, *Specimens of Prose Composition*, Ginn & Co.

Kenney, *Composition from English Models, Books I and II*, Edward Arnold.

(4) *Could you give me the names of some French texts to use for supplementary work in French poetry and prose in Form I?*

Any of the following books would be suitable for supplementary work in French in Form I.

Meras—Le Premier Livre.
Vizetelly—A Child's First Steps in French.
Snow and Lebon—Easy French.
Nesbitt—Contes pour les Commençants.
Batchelor—Mon Premier Livre de Français.
Guerber—Contes et Légendes, Pt. I.

Current Events

The Dominion Election

Beside the events of the last month of 1921 anything that has happened since the armistice of 1918 seems to dwindle into insignificance. The limitation of armaments, the four-power treaty agreement between Great Britain, France, Japan and the United States, which replaces the Anglo-Japanese Treaty and promises a fair solution of a difficult situation, the settlement of the century-long Irish quarrel by the creation of the Irish Free State, and last but not least for us, a Canadian general election—any one of these would have been enough to make a month remarkable.

As the result of the general elections held on December 6, the standing of parties in the new parliament of Canada is now, Liberals, led by the Hon. W. L. Mackenzie King, 117; Conservatives, led by the Hon. Arthur Meighen, 50; Progressives, led by the Hon T. A. Crerar, 65; Labour, 2. For the first time in the history of Canada a woman, Miss Agnes McPhail, has been elected to the Parliament of Canada. Miss McPhail was elected as a Progressive in Grey County. Teachers will be interested in recollecting that Miss McPhail was, a year ago, a teacher in a rural school at Sharon. As a result of the election there will be a change in the government at Ottawa. The teacher of civics to senior or high school pupils will find it an opportune time to draw the attention of his class to the constitutional procedure under such circumstances. How is a government changed as a result of a general election? How is a new executive chosen and appointed? Note how much of this procedure is determined, not by written law, but by constitutional

principles sanctioned by long usage in Great Britain. The Prime Minister who finds himself as a result of a general election without the support of a majority of the members elected, may resign before Parliament meets or, if there be doubt as to the position, he may await the decision of the assembled Parliament. With his resignation go those of his cabinet. When he resigns, the Governor-General, acting on his advice, will send for the leader of the party most likely to have the support of a majority in Parliament, and ask him to form a government. The new Premier will then recommend for appointment the names of those he chooses as his new colleagues in the cabinet or government. They are then appointed as members of his Majesty's Privy Council for Canada. The title of Honourable goes with this appointment.

The Limitation of Armaments

On December 9th the conference on the Limitation of Armament announced that a decision had been reached which will keep the peace on the Pacific for at least ten years. A treaty will be made between Great Britain, The United States, France and Japan. They agree to respect one another's rights with respect to insular possessions in the Pacific, and to hold conferences in cases of dispute. If any other power threatens aggression the four shall communicate fully and frankly with one another in order to arrive at an understanding as to the most efficient means to be taken jointly and separately, to meet the situation. When this treaty is ratified by the four contracting powers, the Anglo-Japanese treaty is to terminate. The treaty is to remain in force for at least ten years, and after that indefinitely, unless terminated by one of the powers on a twelve months' notice. The great importance of this treaty lies not only in the actual terms but in the spirit shown by the nations thus engaged in a great experiment to settle certain problems of first rate importance by conference and joint consideration. It is a happy sequel to the decision to restrict naval armaments for ten years. The two agreements go hand in hand.

The Irish Settlement

On December 14th, the British Parliament by a great majority showed its will to abide by the agreement arrived at by the conference with the Irish delegates. The compact as signed by the delegates gives Ireland the title of The Irish Free State. Its constitutional status is to be the same as that of Canada, Australia, New Zealand and South Africa. The members of the Irish Parliament are to take the following oath of allegiance: "I do solemnly swear true faith and allegiance to the Constitution of the Irish Free State as by law established, and that I will be faithful to his Majesty King George V. and his heirs and successors by law, in virtue of the

common citizenship of Ireland with Great Britain and her adherence to and membership of the group of nations forming the British commonwealth of nations."

The settlement is to apply in the first place to all Ireland, but Ulster is to have the option of withdrawing within one month of the passing of the Act that will confirm the treaty. If Ulster decides to withdraw, a commission is to be appointed to decide on the boundaries between Northern Ireland and the Irish Free State and arrangements are provided for joint action between them on certain matters.

The settlement is now (December 16th) under discussion by the British Parliament and the Sinn Fein (Dail Eireann).

Co-operative Research in Education

PETER SANDIFORD
Ontario College of Education

CANADA has neither a bureau of education nor a bureau of educational research; in other words it has neither a national clearing house for educational ideas, nor a place where educational ideas can be scientifically evaluated. Yet it seems a pity that such means as we have at our disposal should not be utilized. THE SCHOOL, being our nearest approach to a national journal of education, is always willing to act to the limit of its capacity as a informal bureau of education. The present article will suggest how it may play a humble part in a piece of educational research.

In the United States several of the state universities and a few educational foundations have established bureaus of educational research. For the most part, the energies of the directors of these bureaus have been directed to the invention and standardization of scales and tests. These scales and tests have been printed and distributed broadcast to teachers and superintendents of education. Many of them have found their way into the hands of Canadian teachers, but their usefulness has been frequently restricted by the fact that United States material (especially in such subjects as history and geography) has been used, and that standardizations valid for schools south of the line have proved unreliable in Canadian schools. Even when the material (as in spelling scales) is common to both countries, the difference in standards used in making the tests has invalidated the conclusions drawn from their application in Canada. As a matter of fact a fairly extensive use of the Ayres' spelling scale and of Buckingham's extension of the same has convinced the writer that Canadian children on the whole spell better

than American children of the same age and grade. This is only to be expected since we spend far more time on the teaching of spelling than our neighbours to the south. Nevertheless, erroneous conclusions have been drawn from the use of such scales. A Canadian teacher gives the Ayres' test to his pupils and, finding that they do better than the scale says they ought to do, sits back complacently and says "What a good teacher am I!" Whereas to be fair he ought to pit the spelling of his pupils against other Canadian pupils and not against those of the United States. His records, of which he is so proud, may actually be below the Canadian standards although, up to the present, we have no knowledge of what Canadian standards in spelling really are. Of one thing only may we be sure, namely, that they are not like those of the United States.

Which brings me to the subject of the paper. Cannot readers of THE SCHOOL work co-operatively and establish, as a beginning, Canadian standards for spelling? It can be done in some such way as the following:

Teachers everywhere in the public and separate schools of Canada could give their pupils part of the spellings of the Ayres' scale. The lower grades could be given the earlier columns, the higher grades the later columns. In giving the spellings the teacher, without any previous preparation of the pupils for the test, dictates slowly and distinctly each word, which the scholars then write. No explanation of the meaning of the word is given (except for "to," too and "two" etc.) nor is it placed in a sentence. The bare word is dictated. Any coaching, either deliberate or casual, must be avoided; the test must be given in a scientific way, *i.e.*, uniformity of conditions must be preserved—a prime essential in research of this kind.

The teacher collects and marks the papers and sends in a report to THE SCHOOL of the following kind:

Results by Grades

Name of School.....
Address of School.....
Name of Teacher.....
Grade tested, Sr. III, Jr. IV, etc.....
Column given from Ayres' list, A B C etc.....
No. of pupils tested.....
Total words spelled correctly.....
Average number of words spelled correctly per pupil.....
Total words omitted.....
Average number of words omitted per pupil.....
Total words spelled incorrectly.....
Average number of words spelled incorrectly per pupil.....

Separate reports should be sent in for each grade, *e.g.*, Jr. I, Sr. I, Jr. II, Sr. II, etc.

Results by ages:

Column given.....
No. of pupils tested.....
Average number of words spelled correctly by
7 year-olds.....
8 year-olds.....
9 year-olds.....
etc.

The results, when collated, will be published in THE SCHOOL as new Canadian standards in spelling.

Although far from an ideal way of establishing standards (the best being the carrying out of the test by workers especially trained in preserving uniform conditions) the results should be far more reliable than those now in use. If such a humble beginning in co-operative research were successful, more ambitious problems could be worked on later. Are the readers of THE SCHOOL willing to do their share of the work? Ayre's 26 spelling lists are printed below.

MEASURING SCALE FOR ABILITY IN SPELLING

By LEONARD P. AYRES

(By Permission of the Russell Sage Foundation, 130 East 22nd St., New York)

A me, do; **B** and, go, at, on; **C** a, it, is, she, can, see, run; **D** the, in, so, no, now, man, ten, bed, top; **E** he, you, will, we, an, my, up, last, not, us, am, good, little, ago, old, bad, red; **F** of, be, but, this, all, your, out, time, may, into, him, today, look, did, like, six, boy, book; **G** by, have, are, had, over, must, make, school, street, say, come, hand, ring, live, kill, late, let, big, mother, three, land, cold, hot, hat, child, ice, play, sea; **H** day, eat, sit, lot, box, belong, door, yes, low, soft, stand, yard, bring, tell, five, ball, law, ask, just, way, get, home, much, call, long, love, then, house, year, to, I, as, send, one, has, some, if, how, her, them, other, baby, well, about, men, for, ran, was, that, his, led, lay; **I** nine, face, miss, ride, tree, sick, got, north, white, spent, foot, blow, block, spring, river, plant, cut, song, winter, stone, free, lake, page, nice, end, fall, feet, went, back, away, paper, put, each, soon, came, Sunday, show, Monday, yet, find, give, new, letter, take, Mr., after, thing, what, than, its, very, or, thank, dear, west, sold, told, best, form, far, gave, alike, add: **J** seven, forget, happy, noon, think, sister, cast, card, south, deep, inside, blue, post, town, stay, grand, outside, dark, band, game, boat, rest, east, son, help, hard, race, cover, fire, age, gold, read, fine, cannot, May, line, left, ship, train, saw, pay, large, near, down, why, bill, want, girl, part, still, place, report, never, found, side, kind, life, here, car, word, every, under, most, made, said, work, our, more, when, from, wind, print, air, fill, along, lost, name, room, hope, same, glad, with, mine; **K** became, brother, rain, keep, start, mail, eye, glass, party, upon, two, they, would, any, could, should, city, only, where, week, first, sent, mile, seem, even, without, afternoon, Friday, hour, wife, state, July, head, story, open, short, lady, reach, better, water, round, cost, price, become, class, horse, care, try, move, delay, found, behind, around, burn, camp, bear, clear, clean, spell, poor, finish, hurt, maybe, across, tonight, tenth, sir, these, club, seen, felt, full, fail, set, stamp, light, coming, cent, night, pass, shut, easy; **L** catch, black, warm, unless, clothing, began, able, gone, suit, track, watch, dash, fell, fight, buy, stop, walk, grant, soap, news, small, war, summer, above, express, turn, lesson, half, father, anything, table,

high, talk, June, right, date, road, March, next, indeed, four, herself, power, wish, because, world, country, meet, another, trip, list, people, ever, held, church, once, own, before, know, were, dead, leave, early, close, flower, nothing, ground, lead, such, many, morning, however, mind, shall, alone, order, third, push, point, within, done, body; **M** trust, extra, dress, beside, teach, happen, begun, collect, file, provide, sight, stood, fix, born, goes, hold, drill, army, pretty, stole, income, bought, paid, enter, railroad, unable, ticket, account, driven, real, recover, mountain, steamer, speak, past, might, begin, contract, deal, almost, brought, less, event, off, true, took, again, inform, both, heart, month, children, build, understand, follow, charge, says, member, case, while, also, return, those, office, great, Miss, who, died, change, wire, few, please, picture, money, ready, omit, anyway; **N** except, aunt, capture, wrote, else, bridge, offer, suffer, built, centre, front, rule, carry, chain, c'eath, learn, wonder, tire, pair, check, prove, heard, inspect, itself, always, something, write, expect, need, thus, woman, young, fair, dollar, evening, plan, broke, feel, sure, least, sorry, press, God, teacher, November, subject, April, history, cause, study, himself, matter, use, thought, person, nor, January, mean, vote, court, copy, act, been, yesterday, among, question, doctor, hear, size, December, dozen, there, tax, number, October, reason, fifth; **O** eight, afraid, uncle, rather, comfort, elect, aboard, jail, shed, retire, refuse, district, restrain, royal, objection, pleasure, navy, fourth, population, proper, judge, weather, worth, contain, figure, sudden, forty, instead, throw, personal, everything, rate, chief, perfect, second, slide, farther, duty, intend, company, quite, none, knew, remain, direct, appear, liberty, enough, fact, board, September, station, attend, between, public, friend, during, through, police, until, madam, truly, whole, address, request, raise, August, Tuesday, stuck, getting, don't, Thursday; **P** spend, enjoy, awful, usual, complaint, auto, vacation, beautiful, flight, travel, rapid, repair, trouble, entrance, importance, carried, loss, fortune, empire, mayor, wait, beg, degree, prison, engine, visit, guest, department, obtain, family, favour, Mrs., husband, amount, human, view, election, clerk, though, o'clock, support, does, regard, escape, since, which, length, destroy, newspaper, daughter, answer, reply, oblige, sail, cities, known, several, desire, nearly; **Q** sometimes, declare, engage, final, terrible, surprise, period, addition, employ, property, select, connection, firm, region, convict, private, command, debate, crowd, factory, publish, represent, term, section, relative, progress, entire, president, measure, famous, serve, estate, remember, either, effort, important, due, include, running, allow, position, field, ledge, claim, primary, result, Saturday, appoint, information, whom, arrest, themselves, special, women, present, action, justice, gentleman, enclose, await, suppose, wonderful, direction, forward, although, prompt, attempt, whose, statement, perhaps, their, imprison, written, arrange; **R** forenoon, lose, combination, avenue, neighbour, weigh, wear, entertain, salary, visitor, publication, machine, toward, success, drown, adopt, secure, honour, promise, wreck, prepare, vessel, busy, prefer, illustrate, different, object, provision, according, already, attention, education, director, purpose, common, diamond, together, convention, increase, manner, feature, article, service, injure, effect, distribute, general, tomorrow, consider, against, complete, search, treasure, popular, Christmas, interest; **S** often, stopped, motion, theatre, improvement, century, total, mention, arrive, supply, assist, difference, examination, particular, affair, course, neither, local, marriage, further, serious, doubt, condition, government, opinion, believe, system, possible, piece, certain, witness, investigate, therefore, too, pleasant; **T** guess, circular, argument, volume, organize, summon, official, victim, estimate, accident, invitation, accept, impossible, concern, associate, automobile, various, decide, entitle, political, national, recent, business, refer, minute, ought, absence, conference, Wednesday, really, celebration, folks; **U** meant, earliest, whether, distinguish, consideration, colonies, assure, relief, occupy, probably, foreign, expense, responsible, beginning, application,

difficulty, scene, finally, develop, circumstance, issue, material, suggest, mere, senate, receive, respectfully, agreement, unfortunate, majority, elaborate, citizen, necessary, divide; **V** principal, testimony, discussion, arrangement, reference, evidence, experience, session, secretary, association, career, height; **W** organization, emergency, appreciate, sincerely, athletic, extreme, practical, proceed, cordially, character, separate, February; **X** immediate, convenient, receipt, preliminary, disappoint, especially, annual, committee; **Y** decision, principle; **Z** judgment, recommend, allege.

High School Time-Tables

THE formal treatment of time-tables will close in this issue with the presentation of an outline of the time-table of the Brantford Collegiate Institute, which we owe to Principal Overholt, an analysis of the time-tables in three of the large Toronto Secondary Schools, and the time-table of a five-teacher high school which we owe to the kindness of Principal T. C. Smith of Gananoque. With regard to the time-table Principal Smith says: "We have a class in Upper School work and two doing Commercial work, viz., 1B and 2B. In these I have left it to the teacher to say what periods marked Commercial, she will give to Bookkeeping or Shorthand or Typewriting, etc. In Upper School (4) we teach only Honour English, Honour Mathematics, Honour French and Honour Chemistry."

Though it is not intended to publish other time-tables, correspondence is invited from those who seek information or have suggestions to offer.

An Outline of the Time-table of the Brantford C.I.

There are seven periods in the day, each 45 minutes in duration. This is a departure from the usual 9 or 10 period day, and is, to my way of thinking, very decidedly an advantage, except possibly in the subject of Physical Culture, for which the period is somewhat long. The time-tables are on the basis of 4 periods in the morning from 9 to 12, and 3 in the afternoon from 1.45 to 4. In the various year's time-tables as outlined the figures after the subject will indicate the number of periods per week in which the subject is taken. Each week will contain 35 periods.

The division of subjects is as follows:

1st year course (Teachers and Matriculation): English, 6; Canadian History, 4; Geography, 3; Grammar, 4; Botany, 3; Latin, 4; Algebra, 5; Manual Training or Household Science, 2; Physical Culture, 2; total 33.

Subjects for Lower School examination of the first year: Canadian History, Geography, Grammar, and Botany.

Second year (Teachers and Matriculation): English, 6; Physiography, 3; Arithmetic, 3; Zoology, 3; Art or German, 3; Latin, 4; French, 4; Geometry, 4; Manual Training or Household Science, 2; Physical Culture, 2; total, 34.

Students for the Lower School examination write on Physiography, Arithmetic, Zoology and Art.

Third year: English, 6; Algebra, 5; Chemistry or German, 4; British History, 5; Latin, 5; French, 5; Physical Culture, 2; total, 32.

Students will write Pass Matriculation in English, Algebra, British History and Chemistry, with the possibility of German.

Fourth year (The time-table for the 4th year, of course, will be considerably modified another year, but as most of the students wish to complete their Pass Matriculation this year the division of subjects stands as follows:

English, 5; History, British and Ancient, 5; Latin, 4; French, 4; Physics and German, 4; Chemistry, 4; Algebra, 4; Geometry, 3; Physical Culture, 2; total, 35.

Of course in the Upper School a good many of the subjects are coupled to fit the class. The allotment is as follows:

English, 5; History, 3; Latin, 5; French, 5; Physics, 4; Chemistry, 3; Biology, 4; Physical Culture, 2; Algebra, 4; Geometry, 4; Trigonometry, 3; German, 4; Greek, 5.

Commercial Forms

First year: English, 5; Canadian History, 3; Arithmetic, 3; Typewriting, 5; Bookkeeping and Writing, 5; Stenography, 4; Physical Culture, 2; Manual Training or Household Science, 2; French, 3; total, 32.

Second year: English, 5; Arithmetic, 3; Law, 3; Bookkeeping and Writing, 5; Stenography, 5; French, 3; P.C., 2; Manual Training or Household Science, 2; Typewriting, 5; Business Forms and Letter Writing, 2; total, 35.

Third year: English, 5; Arithmetic, 3; Bookkeeping and Writing, 5; Stenography, 5; Typewriting, 5; Physical Culture, 2; Economics, 3; History and Civics, 2; French, 3; total, 33.

Time-tables of Toronto Schools

An analysis of the time-tables of three of the large Toronto schools shows the following characteristics:

The periods are four of 40 minutes each in the morning, and four of 30 or 35 minutes in the afternoon. The number of periods assigned to the various subjects shows some variation, which is most marked in the case of science. Many of the other variations disclosed may be ascribed

to the different distribution of the subjects between the long and the short periods. The following is a summary of the number of periods assigned to the various subjects in the different forms:

Form I: English, 5, 6 or 7; Canadian History, 3 or 5; Latin, 4 or 5; French, 4 or 5; Art, 4; Algebra, 5; Geography, 3 or 4; Botany, 4 or 5; Physical Culture, 2.

Form II, Teachers: Arithmetic, 4 or 5; Geometry, 3 or 4; Latin, 3 or 4; French, 3 or 4; Grammar, 3 or 4; English, 5; Art, 3; Algebra, 2 or 3; Physiography, 3 or 4; Biology, 4; Physical Culture, 2.

Form II, Matriculation: Geometry, 3, 4 or 5; French, 3 or 5; German, 3 or 4; Physiography, 3 or 4; Algebra, 3, 4 or 5; Latin, 4 or 5; Greek, 4; English, 5 or 6; British History, 4; Physical Culture, 2.

Form III: Algebra, 5 or 6; French, 4 or 5; German, 4; English, 6 or 7; Latin, 4 or 5; British History, 4 or 5; Physics, 4 or 6.

Form IV: Algebra and Geometry, 8; French, 4 or 5; German, 4 or 5; Greek, 4 or 5; History, English and British, 5 or 6; English, 5 or 6; Latin, 4 or 5; Physics, 3, 4 or 6; Geometry, 3, 4 or 5; Physical Culture, 2.

Form V: Mathematics, 11 or 12; French, 4 or 5; German, 4 or 5; Latin, 5; Physics, 4 or 5; Geometry, 3, 4 or 5; Biology, 4 or 5; English 5; History 3; Physical Culture, 2; Greek, 4 or 5.

In the 3rd Form, the subjects on which examinations will be written are English, Algebra, British History and one of the Science subjects, usually Physics.

Teachers of Composition are allowed 2 or 3 periods each week for each composition class, for reading the compositions. Teachers of Science are allowed 5 or 6 periods each week for laboratory preparation. Some principals have complained that the 40 or 45 minute period is too long for Physical Culture. One solution of this is offered in the time-table of the University Schools, where Physical Culture is set over against Supplementary English or Sight Reading of Foreign Languages, and two forms are taken in one period. Thus two matriculation classes receive in one 40 minute period, 20 minutes each of Physical Training and Latin sight reading.

Probably every Principal who has tried to arrange a time-table where the periods are not uniform in length has found it very difficult to satisfy the claims of every subject upon position or time allotment.

TIME-TABLE—A FIVE-TEACHER HIGH SCHOOL

Time	Class	Monday and Wednesday	Tuesday and Thursday	Friday
9.00- 9.40	1A	Eng.	Eng.	Eng.
	1B	Hist.	Hist.	Hist.
	2A	Alg.	Arith.	Arith.
	2B	Physiog.	Geog.	Physiog.
	3	Lat.	Lat.	Lat.
	4	Lab.	Lab.	Lab.
9.40-10.20	1A	Hist.	Hist.	Hist.
	1B	Eng.	Gram.	Eng.
	2A	Lat.	Lat.	Arith.
	2B	Spare	Spare	Fr.
	3	Phys.	Phys.	Phys.
	4	Math. 2B	Math. 2B	Lab.
10.20-10.40	All	Physical Culture	Every Day	
10.40-11.20	1A	Geog.	Geog.	Geog.
	1B	Fr.	Comm.	Fr.
	2A	Geom.	Spare	Geom.
	2B	Comm.	Eng.	Comm.
	3	Eng.	Alg.	Eng.
	4	Eng.	Fr. 2A	Eng.
11.20-12.00	1A	Gram.	Lat.	Spare
	1B	Spare	Alg.	Alg.
	2A	Physiol	Physiog.	Physiog.
	2B	Gram.	Comm.	Gram.
	3	Alg.	Eng.	Br. Hist.
	4	Fr. 1B	Eng.	Eng. 1A
1.30- 2.10	1A	Bot.	Bot.	Bot.
	1B	Comm.	Comm.	Comm.
	2A	El. Science	El. Science	Spare
	2B	Arith.	Alg.	Arith.
	3	Fr.	Fr.	Fr.
	4	Fr.	Fr.	Chem. 2A
2.10- 2.45	1A	Lat.	Fr.	Fr.
	1B	Geog.	Gram.	Geog.
	2A	Gram.	Eng.	Eng.
	2B	Spare	Comm.	Comm.
	3	Geom.	Geom.	Geom.
	4	Eng. 2B	Geom.	Geom.
2.45- 3.20	1A	Spare	Gram.	Spare
	1B	Alg.	Spare	Gram.
	2A	Eng.	Art	Gram.
	2B	Comm.	Physiog.	Geog.
	3	Br. Hist.	An. Hist.	An. Hist.
	4	Chem. 1A	Math. 1B	Math. 1B
3.20- 4.00	1A	Alg.	Alg.	Alg.
	1B	Comm.	Eng.	Comm.
	2A	Fr.	Art	Fr.
	2B	Eng.	Fr.	Eng.
	3	Chem.	Chem	Chem.
	4	"	"	"

An Experiment in Salaries

DR. H. E. AMOSS
Hamilton Normal School

THE high grade worker is paid in proportion to the quality and quantity of his production; the low grade worker in proportion to his time. The surgeon who successfully performs the most delicate operations, the lawyer who delivers the most effective plea, the farmer who grows the best crop of wheat per acre, receive the highest remuneration for their effort. A "hunky" works at so much per hour; and all "hunkies" receive the same wage, a minimum that varies only with conditions of the labour market.

At what point on the scale between these extremes, does the teaching occupation stand?

Until now, teachers have been paid a yearly salary dependent, in part upon their professional certification, in part upon their length of service, and in part upon the available supply of teachers. Now a teacher's ceritficate is not a prophecy. It testifies to the fact that the holder has certain professional and academic qualifications required by the Department of Education before one is permitted to enter the teaching profession. It is the means whereby she secures a position; but it does not and cannot measure her productive activity in that position. Energy, enthusiasm, application and initiative are also factors that must be taken into account. Nor does it follow that a teacher improves in proportion to her teaching experience. With time she may progress, stand still, or even retrogress. Special success is here and there recognized by advancement to a principalship; but among the great body of teachers in any urban centre, this method of rewarding good work is strictly limited in its operation.

Since the wage of the teacher is largely determined by her working hours, and to a less extent by the quality and quantity of her production, as crudely indicated by experience and certification; and since her remuneration is dependent in no slight degree upon the supply of available teachers, it would seem that the profession ranks low in the scale of workers, if indeed it can be called a profession.

This system of payment has a mischievous reaction upon the efficient teacher, upon the profession, and upon the relation between the schools and the public.

How can such a method of remuneration stimulate or encourage the teacher to keep herself up to date in modern methods, or night after

night to plan and prepare work for the following day, or to enter into her duties with a whole hearted purposeful activity; when she sees a listless, indifferent, even shirking fellow-teacher draw the same pay, and year after year receive the same increase? Fortunately for the country, the conscience of the average teacher is a highly developed organism, and she has been more or less content with the spiritual rewards of work well done. But a material recompense proportionate to the excellence of her work, must prove a strong incentive to the most conscientious teacher; not only in and of itself, but also as a public recognition of her effort.

Since the product of the teacher's work receives no direct consideration, little differentiation is made between the good and the poor teacher. They are lumped together in one mass. The public get the impression that one teacher is as good as another, provided they have equal certificates and experience. This conception tends to crush and level down the occupation to the status of mere mass labour. Immediately this happens, the law of minimum wage prevails. The teacher is paid, not in accordance with her work, but in accordance with the lowest salary at which teachers may be obtained.

The business man on the school board has been accustomed to pay for goods received. As his children go up through the grades, he becomes aware that there are good teachers, fair teachers, and poor teachers. Yet, year after year, a demand is made for salary re-adjustment; and regardless of the quality of their work, these three classes of teachers receive the same treatment. This does not appeal to the average member of the board as good business.

At the beginning of this year, the Hamilton Board of Education initiated a remedial project which may be briefly stated:

Second Class teachers and First Class teachers with no experience to start at $900 and $1,000 respectively. An increase of $50 per year until an intermediate maximum of $1550 and $1650 is reached. Teachers will be classified by the Inspectors, according to teaching efficiency into three classes "A", "B", and "C". Class "A" teachers who have not yet reached the intermediate maximum will receive an extra $50 per annum, till a full Class "A" maximum of $1,900 or $2,000, according to certification, is reached. Class "B" teachers who have passed the intermediate maximum will continue to receive the regular increase of $50 a year till a full Class "B" maximum of $1,700 or $1,800 is reached. Class "C" teachers will remain at the intermediate maxim, or may be retired without further obligation, by the board. Teachers will be advised twice a year (in detail) of the gradings passed upon their work, and will be rewarded on the basis of the latest report.

The purpose of this project is: to recognize and reward the teacher

doing superior work, to stimulate grade "B" and "C" teachers to do better work, and to initiate a plan of just and equitable remuneration on the basis of "payment by results" and thus increase the loyalty of the staff and the efficiency of the schools.

Teachers are to be graded upon the data secured from a consideration of appearance, voice and manner, as influencing the habits of the pupils; professional activity displayed in Teachers' meetings; improvement of standing; preparation of work as shown in plan book; objective material; teaching methods; formal organization, time-table, course of study; class spirit, cheerfulness, enthusiasm, punctuality; deportment of pupils, neatness of work and person, self-discipline, courtesy, care of property, pride and honesty in work; knowledge and skill in various subjects, initiative, thinking ability, and expression.

The estimate is based almost entirely upon the product of the teacher's work; and is by no means a mere academic one. Habits, emotions, self-control, and other qualities that enter so largely into the determination of personality and character come in for large consideration.

The Hamilton Board of Education, the Inspectors, and the teaching staff are to be commended and congratulated on their determined effort, fairly and squarely to face the present unsatisfactory and unjust method of remuneration and to find a solution equitable alike to the public and to the teacher. It is an experiment well worth watching.

Recent Magazine Articles and Reports on Education

For further information apply to the Librarian, Ontario College of Education, Toronto

The New Organization of Teachers in England, by John Adams, discusses the various associations of teachers in England and their relation to the new Teachers' Registration Council, or as it is more commonly called, the Teachers' Council. *The Educational Review, November, 1921.*

The Junior High School and the Elementary School, by Leonard V. Koos, points to some good effects the creation of Junior High Schools may have on the Elementary School. *The Educational Review, November, 1921.*

Critical Survey of Intelligence Testing, by Peter Sandiford. An interesting history of the movement precedes a discussion of the nature of intelligence and intelligence tests, the standardization of tests and methods of expressing the results of measurements of intelligence. 10 pp. *The Canadian Journal of Mental Hygiene, Montreal, July, 1921.*

Eighth Annual Report of the Chief, Children's Bureau to the Secretary of Labour, U.S.A., *Government Printing Office, Washington, D.C.*

A Short Bibliography of Irish History, by Constantia Maxwell, M.A., Lecturer in Modern History, Trinity College, Dublin. 32 pp. Leaflet No. 23, Revised. *The Historical Association, Russell Square, London, Eng., October, 1921.*

The Housing and Equipment of Kindergartens. *Bulletin, 1921, No. 13, Bureau of Education, Washington, D.C.*

Drama and Story in Education. An extra number. Price 3d. of *The Teachers' World, December 2, 1921.*

Present Status of Music Instruction in Colleges and High Schools, 1919-20. *Bulletin 1921, No. 9. U.S. Bureau of Education, Washington, D.C.*

Opportunity for Study at American Graduate Schools by Geo. F. Zook and Samuel P. Capen. *Bulletin 1921, No. 6. U.S. Bureau of Education, Washington, D.C.*

Dramatics in the High School, by Harry Andrews. This article contains a valuable list of plays suitable for High School use, a list of publishers of plays and a list of books on the drama. *The English Journal, October, 1921.*

The Possibilities of Classroom Experiment, by Elsie Chamberlain. *The English Journal, October, 1921.*

Composition by Project, by Emma Glaser. *The English Journal, November, 1921.*

The Teaching of English in England. The Report of the Departmental Committee appointed by the President of the Board of Education, England, two years ago. Price 1/6½. *H.M. Stationery Office, Imperial House, Kingsway, W.C. 2, London.*

Teacher: "Johnny, what is steam?"
Johnny: "Water crazy with the heat."—*American Legion Weekly.*

Annotated Bibliographies For Candidates For Degrees In Pedagogy

III. Educational Administration

No text-books are prescribed. As educational changes are frequent in the countries under consideration, current articles in journals and reports of associations are often more valuable than any text-books. Suggestions as to readings are given below. These suggestions may be supplemented from time to time.

Ontario

The school system of Ontario may be studied best in the School Acts, Courses of Study, and Regulations of the Province of Ontario. These may be supplemented by Sandiford's "*Comparative Education*" and, if accessible, by the Annual Reports of the Minister of Education for Ontario, Miller's "*Rural Education in Ontario*," and Monroe's "*Cyclopedia of Education.*"

United States

Cubberley's two volumes, *Public School Administration*, and *State and County School Administration*, and Sandiford's "*Comparative Education*" are indispensable. So also are the bulletins of the Bureau of Education, Washington, in so far as they refer to current educational movements and practice in the United States. (See, for example, Bulletins Nos. 5 and 22, 1915; 4, 1919; 46, 1920 for a treatment of the State's authority in education.)

These may be supplemented by Brown's "*American High Schools*," Brown's "*Training of Teachers for Secondary Schools*," Dutton and Snedden's "*Administration of Education in the United States*," Johnston's "*Modern High Schools*," Keith and Bagley's "*The Nation and the Schools*," Strayer and Thorndike's "*Educational Administration*," and, if accessible, Monroe's "*Principles of Education*," Snedden's "*Problems of Secondary Education*," and Monroe's "*Cyclopedia of Education.*"

England, France and Germany

The following should be supplemented by current articles and reports:

Sandiford *Comparative Education.*
Thomas *The Education Act, 1918.*
Farrington *Public Primary School System of France.*
" *French Secondary Schools.*

Alexander *Prussian Elementary Schools.*
Russell *German Secondary Schools.*
Brown *Training of Teachers for Secondary Schools.*

IV. The Science of Education

I. The subject is defined, for the purposes of this course, as a study of the philosophical ideas and social conditions which have influenced the theory and practice of education.

II. The specially selected texts are Adams, J., *Evolution of Educational Theory*; Dewey, J., *Democracy and Education*; MacIver, R. M., *Community;* Brett, G. S., *History of Psychology.* (Plato's "Republic" is treated as a special text for the Greek period.)

III. Students are recommended to read: (a) A general work on the history of philosophy, e.g.: Rogers, A. K., *Student's History of Philosophy*, or Alexander, B. D., *Brief History of Philosophy*, or Thilly, F., *History of Philosophy.* For modern standpoints the following is recommended: Perry, R. B., *Present Philosophical Tendencies.*

(b) Works on special periods, e.g.: Freeman, K., *Schools of Hollas*; Walden, H., *Universities of Ancient Greece*; Rashdall, H., *Universities of Europe in the Middle Ages*, Vol. 1; Laurie, S. S., *Rise and Early*

Constitution of Universities; Woodward, H., *Education in the Renaissance*; Hodgson, G., *French Education* (Rabelais to Rousseau); Quick, *Educational Reformers*; Rusk, R., *Doctrines of the Great Educators*; Emerson, M. Q., *Evolution of the Educational Ideal*; Boyd, W., *From Locke to Rousseau.*

(c) Monographs on the great educators, such as Plato, Aristotle, Abelard, Ignatius Loyola, Montaigne, Locke, Rousseau, Pestalozzi, Herbart, Froebel, Spencer.

(Note.—Those are dealt with in (b) but may be further studied in the standard monographs.)

(d) Students should also study as collateral subjects: Political Theory, History of Science, Sociology (especially the psychological aspects). Those who desire to take up any of these subjects can apply for directions as required.

Book Reviews

The Measurement of Silent Reading, by May Ayres Burgess. Russell Sage Foundation, New York City, 1921. pp. 163. This brief monograph, which can be read comfortably in an hour or two, is a first class piece of work. It does more to clear the fog in which scales and tests have lost themselves than any previous volume which the reviewer has been fortunate enough to read. Its fundamental thesis is that each scale used by the classroom teacher must help him to answer one of three questions: "How well can the pupil do a thing?" "How fast can he do it?" and "How hard can he work?" In the preparation of a scale the principle of the single variable must be rigorously employed. This principle "consists of distinguishing the possible controlling, varying factors; devising means for holding them all constant save one; and measuring that one." In the preparation of her reading scale, Mrs. Burgess shows how all factors except the time required by the child to read a paragraph correctly were kept constant or eliminated. Her monograph is the record of a scientifically planned and carefully executed piece of educational research. P. S.

The Teaching of English, A New Approach, by W. S. Tomkinson. Paper boards, 229 pages. Price $2.00. Toronto, Oxford University Press, 1921. This book does represent a new and interesting approach to the subject of teaching English. On the side of composition the author lays very great emphasis on oral work. He not only believes that oral composition is exceedingly fruitful in its results, but that a too early, or too narrow insistence on written work really deters the development of the pupil's powers of self-expression. Of course, he

approves of written work at the right time, and would include verse composition as well as the writing of prose. In connection with both oral and written composition, he not only lays down sound principles for the guidance of teachers, but gives many very practical suggestions for classroom work. On the side of appreciation the author insists that the aim in teaching literature should be to train the sense of beauty, to lead the pupils to appreciate the best in imaginative literature. "Young readers should know what is beautiful in literature, and at least the attempt must be made to show them why it is beautiful." One of the chief means of developing appreciation is good oral reading by teacher and pupils. In this connection the author has many sound, useful suggestions to make. This book together with a companion volume, *The Rudiments of Criticism*, by Lamborn (Oxford University Press) will prove valuable to teachers of English, and particularly to those teachers of literature who have heretofore been tempted to make literature largely a study of words. G. M. J.

The Encyclopaedia and Dictionary of Education, edited by Professor Foster Watson, M.A., D.Litt. In 4 volumes, each 7½ in. by 10½ in. Price per set $25.00. Sir Isaac Pitman & Sons Ltd., 70 Bond Street, Toronto. Vol. I, A-Edg., 512 pp. Vol. II, Edi-Mak., pp. 513—1024. This encyclopaedia, of which the first two volumes are now available, is the largest venture in the field of educational publication since the appearance of Monroe's Cyclopaedia of Education in 1913. The editorship of Professor Foster Watson is a sufficient guarantee that the articles will be scholarly, and that good judgment will be shown in the proportion of space and the choice of topics. While the articles do not pretend to give an exhaustive treatment of the topics with which they deal, and one might wish at times for a somewhat lengthier treatment, the necessary limitations of space are made up for by short and well-chosen bibliographies added to the various articles, and bibliographies are by no means the least important feature of such a publication. The first two volumes contain 53 full-page plates illustrating school and university buildings in Europe and America. The air photos of Eton College and of Oxford and Cambridge are particularly striking. There are in addition numerous smaller cuts illustrating particular points in the various articles. The work is sufficiently recent to include an article on the English Education Act, 1918. The general treatment reflects of course the English point of view and English interests, but among the 850 distinguished contributors are men of eminence in educational affairs in many countries. It is to be hoped that a subsequent volume will give a list of contributors, as many articles are signed with initials only. Students of education everywhere will welcome these interesting and attractive volumes. W. E. M.

Notes and News

The Canadian Forestry Association offers to any Canadian teacher or clergyman the free use of one of its Travelling Lecture Sets consisting of sixty lantern slides and an explanatory address on the Forests of Canada, and Reforestation. In hundreds of churches and class rooms these lecture sets have been used with great satisfaction.

The lecture is non-technical and is readily understood by senior boys and girls although it is designed to interest adult audiences equally. The lantern slides are all coloured and are sent from point to point in a break-proof box. Any teacher or clergyman having a stereopticon available can secure the use of one of these lecture sets by writing the Canadian Forestry Association, 224 Jackson Building, Ottawa. The latter is an educational institution maintained for patriotic purposes and has no connection with any government or commercial interest.

Ontario

Last Year's Classes in Training Schools

London Normal School.—Miss Beatrice Hinnegan is teaching in S.S. No. 5, Sombra, R.R. No. 1, Port Lambton; Miss Hattie M. Robertson at R.R. No. 2, Turnerville; Miss Mary B. McLauchlin at R.R. No. 3, Watford; Miss Eva A. Crawford at Blemheim; Miss Irene S. Durrant at R.R. No. 1, Harrow; Miss Leela G. Morgan at R.R. No. 2, Milton; Miss S. Ellen McKellar in S.S. No. 5, Enniskillen Tp., Lambton County; Miss Grace Godwin in Dryden Public School; Miss Opal Burke in S.S. No. 17, Harwick; Miss Jeanne King at Dredsen; Miss Geraldine Hyland in S.S. No. 10 Dover Township; Miss Viola Walrath at S.S. No. 3, Chatham; Miss Nellie Campbell at Silver Hill; Miss E. A. Crawford at R.R. No. 3, Blenheim; Miss Jean Hogg at R.R. No. 2, Thamesford; Miss Mabel Schuler at Muirkirk; Miss A. L. Thompson at R.R. No. 1, Brownsville; Miss Jean Welch at R.R. No. 1, Glencoe; Miss Mary Louise Bondy at Box 69, Sandwich; Miss Margaret Maisey at Ruscomb; Miss Minnie Pack at R.R. No. 3, Parkhill; Miss Beatrice McCallum at R.R. No. 1, Thamesford; Mr. J. I. Parker, in S.S. No. 13 London Tp., Middlesex County; Miss Cora Parker in S.S. No. 15 Perth County; Miss Marion McIntyre at R.R. No. 1, Iona Station; Miss K. Elsie Taylor at S.S. No. 4, Yarmouth; Miss Mary B. Campbell at R.R. No. 5, St. Thomas; Mr. M. M. Garner at R.R. No. 2, Walker's

Post Office; Miss Margaret J. MacKenzie at R.R. No. 4, Alvinston; Miss Verda J. Badgley at R.R. No. 2, Florence; Miss Kathlene Chambers at R.R. No. 2, Walkers; Miss Norma Scott at Komoka Village; Miss Jean A. Ewart at Petrolia; Miss Rheta Matthews at R.R. No. 1, Strathroy; Miss Cathrine M. Ferguson at R.R. No. 4, St. Thomas; Miss Mary B. Campbell at R.R. No. 1, St. Thomas; Mr. E. W. Fox at Hepworth; Miss Ethel Colquhoun at S.S. No. 10, Blanshard; Miss Nellie Campbell at R. R. No. 2, Langton; Miss Gladys M. Cox at Union; Miss Helen Barbour at R.R. No. 1, Ettrick; Miss Nellie L. Baker at R.R. No. 1, Wilton Grove; Mr. Merle Vansickle in S.S. No. 3, Lakeview; Miss Pearl A. Wilson in Elmwood Public School; Miss Jessie McKercher at Watford; Miss Mary L. Thomson at R.R. No. 1, Kingsville; Miss Dorothy E. Burtch at Coatsworth; Miss Eveline Shepley at R.R. No. 1, Kingsville; Mr. Cleo Sutton at Union S.S. No. 14, Ekfrid and Metcalfe; Miss Mildred Lendon at Box 807, Leamington; Miss Mary E. Bradt at Aylmer; Miss Sadie A. Barnes at R.R. No. 2, Watford; Miss Muriel M. Hogarth in S.S. No. 1, Stephen Tp., Huron County; Miss Vina B. Bolton at Port Lambton; Miss Annie MacDougall at Strathroy; Miss Grieta Fleming at Schreiber Public School.

Manitoba

The annual meeting of the Manitoba Teachers' Federation was held on Wednesday, December 28th, in the Industrial Bureau, in Winnipeg. There was a fine attendance of delegates from the various Locals throughout the province, something over sixty such being represented by regularly appointed delegates. The reports given by the M.T.F. executive indicate that the past year has been probably the most satisfactory one yet in the history of the organization. Fuller reports will appear in the next issue.

A movement is on foot in this province to raise the status of the teaching profession. This is in response to a feeling that the calling must have the best equipped men and women possible. A committee of the Manitoba Teachers' Federation, consisting of Major C. K. Newcombe, G. J. Elliott, President H. W. Huntly and Miss M. McNiven, waited upon the Advisory Board, of the Department of Education, at a recent meeting to discuss the raising of the standard of requirements for the teaching profession. The representations of the committee were endorsed by Mr. J. W. Seater and Mr. H. W. Coxsmith who

represented the Manitoba Trustees' Association. The deputation offered the following suggestions:

a. That Grade XII be the minimum in scholarship for a permanent professional licence.

b. That as soon as may conveniently be arranged the Normal School Course be extended to two years.

c. That all certificates issued under the present regulations be protected.

d. That during the transition period a limited certificate based on the present requirements be granted. (This would mean Grade XI scholarship and one year's professional training).

The Board agreed to take the matter into consideration at once. Whilst the advance may not be made for some time, yet there is reason to believe that in a few years the requirements for a permanent certificate in this province will be Grade XII and two years normal training—or some such extension. It is a very hopeful sign when teachers and trustees thus co-operate in a matter which so vitally concerns the education of the children of this province.

President Huntly, of the M.T.F., reports that probably five hundred teachers of Manitoba are taking special courses of study leading to University degrees, or are pursuing lines of research suggested by the M.T.F. Research Bulletin No. 1, or have been travelling.

The Trustees are giving every help and encouragement in the matter. The results in terms of good citizenship are beyond ordinary valuation.

Miss E. S. Colwell, B.A., of Winnipeg, has been appointed to the Council of the University of Manitoba. Miss Colwell is one of our best teachers with a varied experience, a thorough knowledge of school conditions and fine scholastic attainments. The appointment is a very popular one.

Few people realize that 26,445 Canadian ex-service men have been established on the land and are nearly all making good; that Canada's water-power development represents an investment of $475,000,000, while the power produced would otherwise require 18,000,000 tons of coal yearly; or that nearly 88 per cent. of the world's supply of asbestos comes from the Province of Quebec. The Natural Resources Intelligence Branch of the Department of the Interior, has just issued a revised edition of "Compact Facts," which contains in concise form, information

regarding Canada; its area, population, trade and industries; their extent, capital invested, wages paid, values of live stock, principal crops and amounts produced; mineral resources and present production; also forest resources and forest products. Copies of the booklet are available on application to the Superintendent, Natural Resources Intelligence Branch, Department of the Interior, Ottawa.

Copies of the Report of the Conference on Educational Statistics and of the Historical Statistical Survey of Education in Canada will be sent free of charge to any teacher who applies to the Dominion Bureau of Statistics for them so long as the supply holds out.

Quebec

The meeting of the Protestant Committee of the Council of Public Instruction was held in the Parliament Buildings in Quebec on December 9th.

Principal W. Allen Walsh, B.A., Strathcona School, Outremont, was introduced as the newly appointed representative of the Provincial Association of Protestant Teachers on the Committee.

The Committee decided to re-introduce a motion that they previously passed, enabling candidates to pass in subjects where there are two papers by taking either 40 per cent. on each paper or 50 per cent. on the combined totals of the two papers, in the School Leaving Examinations.

As the Grade VIII examination papers are in future to be examined by the teachers themselves, and as the results in Grade VIII determine to some extent the standing of the schools and the bonuses given along with the grants, the Protestant Committee decided that the papers of Grade VIII, after being corrected by the teacher, must be submitted to the scrutiny of the examiners in Quebec.

A report on the teaching of oral French by French specialists in the Province was received and approved.

Mr. Charles McBurney, B.A., former principal of Lachute Academy, and associate member of the Protestant Committee, accepted the position of special officer in the Department of Public Instruction. He therefore resigned as associate member, and Dr. J. A. Nicholson, registrar of McGill University, has been appointed in his place.

The School

"Recti cultus pectora roborant"

Editorial Notes

The A.A.A.S. The visit of American scientists to Toronto during the last week of the old year was an unqualified success. The executive committee, counting on 500 visitors and 300 local associates, were agreeably surprised to find that Toronto attracted nearly three times this number of visitors, while the Canadian membership swelled the grand total almost to 2,000. The visitors were charmed with the hearty hospitality extended to them, "Who wouldn't be?" said one of them, "When I got off the train at the Union Station a gentleman with a broad smile took hold of my grip and put me into a taxi. I was then driven up to Hart House and given an excellent breakfast. When I enquired what and whom I should pay I was told that all such things had been arranged for. Who wouldn't be charmed with such a greeting? I've never met with such hospitality before in any meeting I have ever attended. It put me in such a good humour that only a succession of catastrophes could have dissipated it. And the catastrophes didn't materialize. On the contrary, the longer I stayed the more I enjoyed myself. The only fault I find is that I have had such a hectically good time that I am longing for a good night's rest. But the good impression will never fade away." Multiply this statement by 1,300 and one begins to realize the value of such a gathering in creating good-will between the United States and Canada.

Turning now to the sections which dealt with education and psychology, subjects in which readers of The School are particularly interested, the most persistent impression that they left is that of the all-round excellence of the papers. Only one of them was unworthy of a place on the programmes. In this connection it may be remarked that the Canadians held their own very well indeed. Perhaps the next thing that remains in the memory of the visitor is the keen yet good-natured discussion of the papers. It was an invaluable lesson to Canadians, naturally hypersensitive to criticism, to listen to Franzen and Courtis arguing the merits and demerits of some standard tests. It

was almost as good an object lesson as to listen to Professor Bateson calmly and frankly acknowledging that his life-long beliefs had been overthrown by new evidence shown to him since he landed on these shores. A further impression is the large part that psychology now plays in scientific education. Even the realm of special methods was invaded by Thorndike's paper on "The Psychology of the Equation". It will be somewhat of a pity if research in educational administration, in the history of education and in special methods disappears from our higher educational programmes. There is grave danger that this will be the case in the United States. In Canada we are only just beginning scientific research in education so the danger is not imminent. But it behooves all who have administrative charge of educational courses to see that the balance true is preserved.

The Public School Inspector

Two articles in a recent number of the Educational Review discuss the problem of whether teaching is or can be made a profession. The main objections raised to the use of the term are the short period of preparation required for the teacher and the short term of service of the majority. It is pointed out that, after the usual high school course, only a year. or at most two years at a training school will qualify one for a teacher's certificate. After this is obtained, the usual length of service at the most is only about seven years.

While this may be true of the majority of teachers it is certainly not true of the professional administrator. The Ontario Public School Inspector for instance must be a university graduate with specialists' standing. He must have taken at least a year of professional training and has probably taken two years. He must have served an apprenticeship of at least seven years as a teacher. He must have continued his professional studies sufficiently to pass a second and more difficult professional examination before his appointment as inspector. He has probably taught also in High School or Collegiate Institute. Few professions can point to so long a period of preparation. Few professional men have opportunities for greater public service.

No matter how wisely governments may legislate or make regulations, little result is likely to be produced unless there is someone on the spot to make sure that law and regulation are understood, that their importance is appreciated and that means are provided to carry them into effect. The local inspector is the man on the spot. Between the state government and the local authority, between the local authority and the teacher in the classroom, the inspector is the link. By the terms of his appointment, he represents at the same time, the authority of the province and of the municipality. He is the only official of either

that comes into direct contact with the problems of the classroom. To him more than to anyone else, are due those practical improvements in school accommodation and equipment and in methods of teaching that have made the Ontario rural school about as effective as a one-teacher school can be made. The problems the Inspector is called on to solve in his daily work require in a high degree, professional knowledge, human sympathy, sound judgment and unwearied application. Great responsibilities are laid on him and one has only to attend a few sessions of the Inspectors' section of the O.E.A. to be sure that those responsibilities are being well met.

In the time required in preparation, in length of service and in the importance and difficulty of his work, the Inspector ranks with the outstanding professional men of his community. Is his reward proportionate?

The School Attendance Acts

It is early yet to estimate the effects of the recent school attendance acts passed by the Ontario Legislature. Yet much information is at hand which shows that decided progress has already been made. Every organized municipality in Ontario has now its attendance officer appointed, and in several cases urban municipalities have made a local census of the school population. In Windsor the census was made by the Board of Education. Public school teachers took a half-day on Saturday and made a complete house to house canvass. They were paid at the rate of 4 cents a name for those of school age entered on the lists and one cent a name for occupied houses where there were none of school age. In St. Catharines a local census was made by the students of the Collegiate Institute under the direction of the Board of Education and the attendance officer. In Fort William the census was made by the school attendance officer and was ready for the opening of school in September. All this indicates a fine enthusiasm. There is no doubt that direct economies in providing school accommodation will result from the definite information thus acquired.

In an interesting paper read before the American Association for the Advancement of Science last December, Major Cowles, the Provincial School Attendance Officer, stated that information secured from a few cities would indicate that the increase in the attendance of adolescents is considerable, quite 20% of the total number of fourteen and fifteen-year-old adolescents of such urban centres. "It should be borne in mind", he states, "that, as indicated by actual surveys made during the past two years, approximately 50% of the fourteen and fifteen-year-old adolescents of the towns and cities of the province were attending school before the Act came into force". The highest percentage of

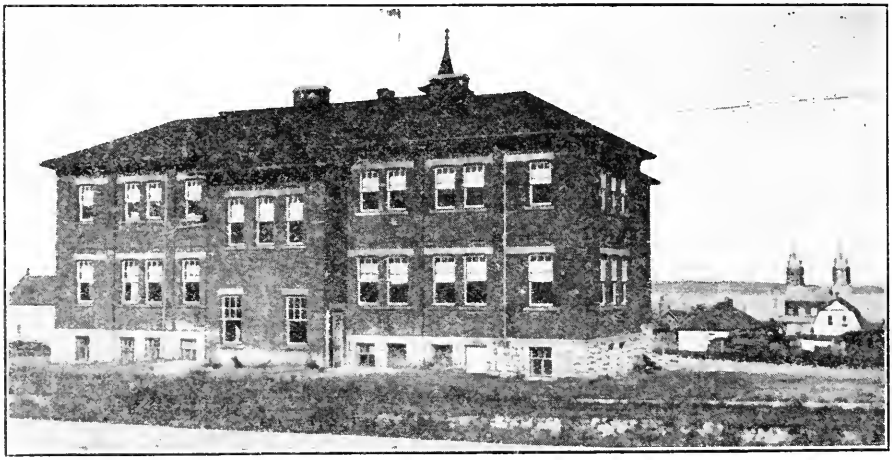
increase observed so far was in St. Catharines where the fourteen-year-old group attending school increased by 145% and the fifteen-year-old group by 41%. The results would seem to show that in St. Catharines practically all the fourteen-year-olds are now attending school.

An Educational Tour

(Continued from January Issue)

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto

To Haileybury, on Friday morning, August 26th, came the education special and the teachers began their visit to the "triple towns" of the



PUBLIC SCHOOL, HAILEYBURY

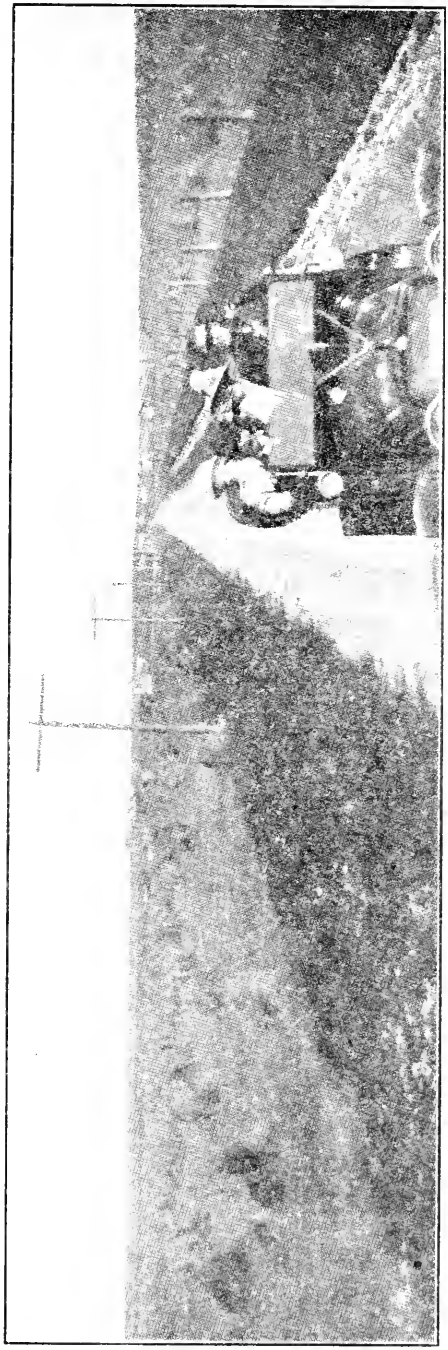
north. Half the party took the radial car to New Liskeard for breakfast; the other half set out in the same way to Cobalt for the same purpose.

The three towns are distinct and yet one; each very different from the other two, yet each necessary to serve as complement to the others. There is Cobalt, the largest of the three, a hustling, confident, substantial mining town—mines and mine activity everywhere. Then Haileybury, quiet, prosperous, residential, well-kept, beautifully situated on a hillside. Next, New Liskeard, live, energetic, an agricultural centre, much like the typical town in Southern Ontario.

After breakfast in the basement of the Presbyterian Church in New Liskeard, the Temiskaming Motor League appeared with cars for

everyone, the Mayor, the President of the Board of Trade, the Principal of the Public School in charge of all arrangements. The programme contemplated a drive to the Hudson Consolidated School, on to Milberta and Uno Park and back to New Liskeard before noon. To most, if not all, of the teachers that morning trip was a revelation. Why, there were farms, good farms, excellent crops, fine vegetables, substantial houses and barns, herds of the very best of cattle! All this, in Northern Ontario! One might almost imagine oneself in Middlesex or Huron, Perth or Waterloo! Few had realized that New Liskeard is surrounded by a magnificent agricultural district. Many heard that morning for the first time of the "Little Clay Belt".

The Hudson Consolidated School, its vans, its transportation problems, its good salaries, and its teachers who "stay", interested everyone. In Northern Ontario, the visitors learned, good salaries are paid and good service is demanded. The old tradition that untrained teachers are "good enough" for the north has been exploded. The North wants the best teaching there is and is willing to pay for it.



FARMS IN NEW ONTARIO'S 20,000,000 ACRE CLAY BELT

To those who are inclined to forget or, perhaps, to belittle the service rendered by teachers, the following story, told that morning in his office by a New Liskeard man, manager of two large mining companies, may be of interest. "When I was a boy in Owen Sound Collegiate Institute, the teacher of geography gave us a lesson one day on the district surrounding Hudson Bay. He said that the rock in that district is the oldest in the world, that it must contain minerals, and that he expected to live to see the day when that district would produce more minerals than all the rest of the world. Years after I came to New Liskeard and went into the lumbering business. One day a prospector came to my office and asked me to grub-stake him. Grub-staking was a new one on me but, when I understood what he meant, I remembered what the teacher had said. I got a few of my acquaintances together and we grub-staked the prospector. That was the beginning of this Company and it would not have been in existence now were it not for that lesson

Hudson Consolidated School, near New Liskeard

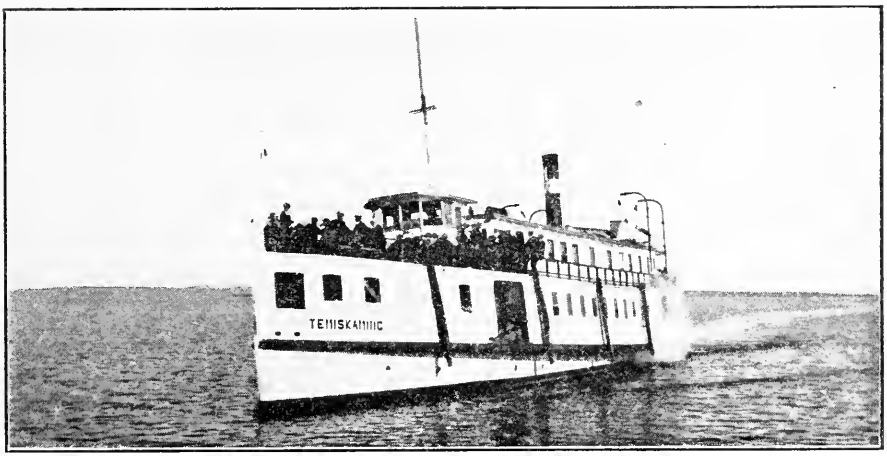
on geography". Where is the teacher now? He supplied the incentive; the pupil made the money!

At noon the two parties exchanged places and those who had been at New Liskeard in the forenoon were taken for a motor trip around the "Silver Camp" at Cobalt after, in the theatre, the whole process of silver-mining had been explained by means of moving pictures. The Mayor, the Chairman of the Board of Education, and other representative citizens accompanied the visitors and spared no pains to make the visitors feel at home and to enable them to secure all the information possible.

About 4.30 p.m. the two parties united and were taken for a three hours' sail on beautiful Lake Temiskaming. After the unremitting labours of the day, this restful outing was most welcome and it was, as well, a good lesson in geography. Maps, sketches, notebooks were

brought into use; the situation of Lake Temiskaming, its relation to the Ottawa river, the relative positions of Ontario and Quebec, were all verified. Lake Temiskaming that afternoon seemed much more real, and infinitely more interesting, than it could possibly appear on a wall map of the Province of Ontario. And, no doubt, many teachers saw a means of making geography for their pupils a vivid and an interesting description rather than the memorizing of interminable lists of names.

After the evening meal at Haileybury the visitors had the choice of entertainments at New Liskeard and at Haileybury. A good many found their way, naturally, to the Haileybury High School and the Mining School on the hill. The High School is well-equipped and compares favourably with any school of its size in Southern Ontario;



A Trip on Lake Temiskaming

the Mining School has more equipment and does more good work for the locality than one can grasp in a single brief visit. A school of this kind is, of course, an absolute necessity in Northern Ontario.

To the onlooker it appeared that the tourists left these three northern towns with something of regret. There is so much to see here that one day seems a fleeting space of time in which to attempt to see all. In the triple towns one feels the characteristic northern spirit and sees all variations of that spirit. There is a fascination about them and perhaps it is as well that one should feel that something is left to be seen on a second visit.

In Cobalt was born the seed-idea which bore fruit in the educational tours of 1920 and 1921. Nine years ago Mr. A. E. Bryson went to Cobalt as Principal of its Public Schools. The north laid hold on him,

its spirit became his, and he saw the necessity of taking some means to show to the people of Southern Ontario the problems, the resources, and the possibilities of the north. That he succeeded in his purpose all who were fortunate enough to participate in either of the tours will bear enthusiastic witness.

(To be continued).

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School.

Judging Grains and Testing Seeds

FOR rural school work there is probably no topic in agriculture that affords better opportunities for observation lessons than judging grains and testing seeds. The grains and seeds can be conveniently brought to the class by the pupils and the apparatus for testing seeds is simple and easily manipulated. In addition to their feasibility the exercises in this topic are of great practical value to the girls and boys of the farm.

The value of the field crops of Ontario for 1919 was $250,000,000. Dr. Creelman, ex-president of the Ontario Agricultural College, once stated that the value of the field crops of this province could be increased by twenty per cent. by taking proper care in the selection of the seed that is sown. The result of the following experiment which was carried out in the summer of 1917 in the Toronto Normal School gardens goes to show that Dr. Creelman's estimate was not too high.

Three plots of oats were planted under exactly similar conditions. Plot No. 1 was seeded with Banner Oat, No. 2 with Ontario Agricultural College No. 72, No. 3 with an unimproved oat, the seed being brought from his home farm by one of the pupils. At harvest time the crops in plots Nos. 1 and 2 were fully forty per cent. better than the crop in No. 3. Young people who take part in working out an object lesson such as this will have their thoughts directed to the possibilities to be found in improved varieties of grains and vegetables; at the same time the specific training in the observation of seeds and crops will improve their capacity for detecting the good or the poor qualities of these.

The capacity for making close observation and drawing correct inferences from these observations has frequently been the cause of important improvements in agriculture. The following is cited as an

example. Some years ago, Mr. Alex. Dawson, a farmer in Central Ontario, had a field of fall wheat that was badly winter killed. While looking over the field and deliberating whether it should be plowed up he observed one plant that looked much stronger than its neighbours. He watched its sturdy growth for a few weeks and inferred that this plant possessed certain vigorous qualities in a greater degree than any of its fellows. When the heads produced by this plant were ripe Mr. Dawson carefully gathered them and threshed them by rubbing between the palms of his hands. The grains from these heads were sown in a small plot and thus originated the variety of wheat known as Dawson's Golden Chaff, which has been the leading variety of fall wheat in Ontraio for many years.

There are so many keen young eyes and sharp intellects to be enlisted in the work of improvement that every teacher of Nature Study or Agriculture should seize the idea that the important thing in method is that the pupils learn through what they themselves see and do. Skill in judging grains, as in judging farm animals, can come only through practice and long experience. The teacher need not hesitate through fear of lack of knowledge since the immediate purpose of the lessons is to start the pupils on the right road for obtaining knowledge.

Outline for a Series of Lessons on Oats

Materials.—Samples of oats, each consisting of a handful, one from each pupil of the class. Score cards ruled by the pupils in their N.S. note books. Germinating apparatus, see *Ontario Teachers' Manual of Agriculture*, page 86.

Lesson I.

The samples are placed in separate heaps on the teacher's table and the pupils examine them and grade them according to:

1. *Colour.*—Bright, shiny kernels, free from spots, discolourations, greenness and evidences of sprouting, are the best.

2. *Size and plumpness of the kernels.*—Pinch to find whether the kernels are as plump as they appear. If feasible find weight per bushel.

3. *Freedom from seeds of other kinds.*—Look for seeds of weeds, other grains, and for seeds of oats that are different varieties.

4. *Thinness of hull.*—The hull forms from 23% to 40% of the total weight of the oat and as it is almost worthless, the value of the oat depends in no small measure upon the thinness of the hull. The thinness may be determined by:

(*a*) The thinner hulls strip off easier.

(*b*) The deeper the groove in the surface of the kernel, the thinner the hull.

(*c*) Compare the thickness of the hulls after stripping them off.

(*d*) If a delicate balance is available a number of hulls from a sample may be weighed and the percentage of the weight of the kernels may be found.

Select the poorest and the best samples as decided by tests Nos. 1 and 2 above. Use these for lesson II.

LESSON II.

Prepare for a germination test using either one of the two methods described in the *Ontario Teachers' Manual of Agriculture*, pages 86 and 87. For this test select ten of the best seeds from the best sample and ten of the poorest seeds from the poorest sample, Lesson I. Test the germinating power of these two sets, and observe:

(*a*) The number of kernels that germinate in each.

(*b*) The number of kernels in each that have strong seedlings and the number that have weak seedlings.

The results of this study should lead to the following conclusions:

(*a*) Seeds that have clear bright colours have better germinating power than seeds with dull or discoloured surfaces.

(*b*) Kernels that had sprouted during harvest or that had become mouldy have poor germinating power.

(*c*) Plump grains produce more vigorous seedlings than small or shrunken grains.

Summary of points to consider in judging oats:

1. Colour: bright, lustrous, not sprouted or mouldy.
2. Size and plumpness; large and firm.
3. Freedom from other seeds.
4. Thinness of hull.

LESSON III.

Judging the samples of oats by using the score card. Application of knowledge gained in lessons I and II.

Points to consider	Possible Score	Test Sample	Samples		
			a	*b*	*c*
Colour and freedom from sprouts	20				
Size and plumpness	20				
Freedom from other seeds (purity of variety = 15)	35				
Thinness of hulls	25				
Total	100				

The teacher and pupils together judge one sample and enter the score decided upon for the various points in the column "Test Sample".

The pupils, working separately, next judge three samples designated "*a*" "*b*" and "*c*". For this exercise about one dozen kernels from each sample are supplied to each pupil.

OUTLINE FOR A SERIES OF LESSONS ON JUDGING CORN IN THE COB.

Materials: Several ears of corn. One ear should be of good quality while the others illustrate the deficiencies frequently found in ears of corn (Figs. 2 and 3). Three samples each made up of at least three ears. It is desirable that these be brought by the pupils. Score cards ruled in the N.S. note books by the pupils.

Fig. 1.

Kernels and germs indicate good germs.

Kernels and germs are weak.

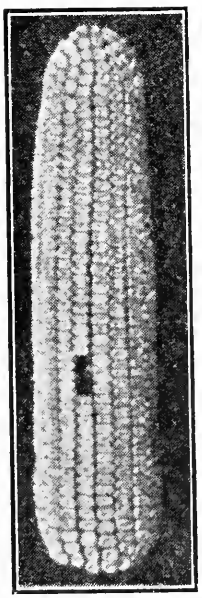


Fig. 2. Grand sweepstakes. Single ear at the Iowa State Corn Show.

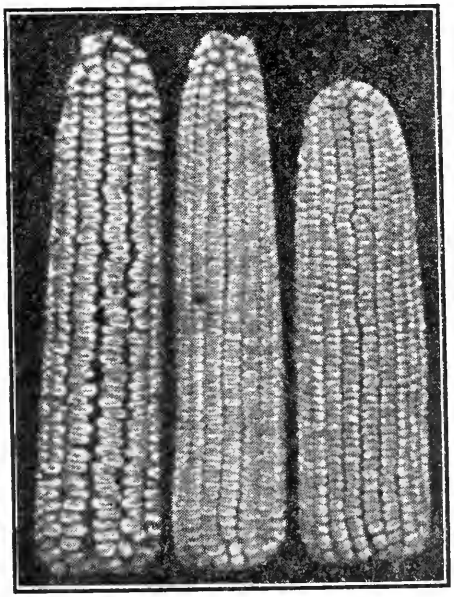


Fig. 3. Undesirable types of ears. At the left, grains spaced too wide; in the middle, ear too slender; at the right, ear too short and thick.

LESSON I.

To lead the pupils to interpret properly the points to be considered in judging corn in the ear.

The method of development in the case of a few of the points is here outlined. This method is applicable in the case of the other points.

Two ears are shown to the class, one having straight regular rows with narrow furrows, while the other has irregular rows and wide furrows. Compare the rows and furrows. Which looks the better? If the ears were of equal size, which would have the greater quantity of corn? Are narrow spaces between the kernels of each row an advantage?

Summary.—Furrows between the rows and between kernels should be narrow and straight. (Note—Absence of space is a defect as it prevents drying).

Two ears: one having straight rows of good kernels extending through butt and tip and one having irregular deficient currents in butt and tip, are compared. Which ear, other things being equal will bear the most corn? Recall the experiment with shrivelled oat kernels and decide whether the small corn kernels in this tip and this butt will make good seed.

Summary.—Tips and butts should have good kernels in straight continuous rows.

Remove a few kernels from cobs and compare the shapes of kernels and also the shapes of the germs (Fig. 1). Which kernels are plumpest? Which kernels have the broadest, deepest germs? Which kernels fill the space down to the cob the best, and will therefore give greatest weight of corn?

Summary.—Kernels in an ear should be uniform in shape and size, should be *keystone* in form to fill the space down to the cob. The germ should be broad and deep as this indicates good germination.

The remaining points may be developed by similar methods, and the complete summary should be as follows:

Corn in the ear:

1. Furrows between the rows and between kernels should be narrow and straight.

Note—Absence of space is a defect as it prevents drying.

2. Tips and butts should have good kernels in straight rows.

3. Kernels in an ear should be uniform in shape and size. Keystone shape fills the space down to the cob. Germ should be broad and deep (good germination).

4. The ear should be of good length and circumference, cylindrical and straight.

5. The kernels should be true to type. (Black or white kernels among yellow, for instance, indicate cross fertilization).

6. The kernels should be bright and lustrous, and germs bright and not shrunken (good germination).

7. The kernels should form a large percentage of the total weight.

Note—Estimate by diameter and density of cob, shape of kernels, width of furrows, perfection of tip and butt. If possible, find by weighing.

LESSON II.

Judging corn by using the score card. The teacher and pupils together judge and value two ears. This exercise helps the pupils to use the knowledge gained in Lesson I, and assists them in understanding the values.

The pupils, working separately, now judge and value three samples each composed of at least three ears.

SCORE CARD FOR CORN IN THE EAR

Points to be considered	Value	Exhibits		
		A	B	C
Furrows between rows	5			
Space between kernels and cob	5			
Tips of ears	5			
Butts of ears	5			
Uniformity of kernels (shape and size)	10			
Shape of kernels	5			
Quality of germ	10			
Size of ear (length, circumference)	15			
Shape of ears	10			
Trueness to type	10			
Colour of kernels	5			
Colour of cob (reddish for yellow corn, white for white	5			
Proportion of corn to cob	10			
Total score	100			

SUGGESTIONS FOR HOME AND SCHOOL-GARDEN EXPERIMENTS

I. Discuss with the pupils the use of the fanning mill for removing the light kernels and weed seeds from seed grain.

To demonstrate that the best results are obtained by passing the grain through the fanning mill at least three times, take one half pint of oat seed that has been prepared in this way or that has been hand selected and one half pint of unfanned seed. Plant these separately in

two similar plots each 10′×20′, taking pains to get a uniform distribution of seed.

During the growing period make observations on the following points:

a. The length of time required by the young plant in coming up.

b. The uniformity of growth of the plants in each plot.

c. The average number of young plants per square foot in each plot.

d. The number and variety of weeds in each plot.

e. The estimated yield per acre of each plot.

II. By applying to the Department of Field Husbandry, Agricultural College, Guelph, Ont., seeds for experiments in varieties of oats, barley, wheat, etc., may be obtained. (See experiments outlined in the 3rd paragraph of this article).

Picture Study in Oral Composition

ADRIAN MACDONALD

PICTURE study makes a form of oral composition a shade more difficult than the reproduction of a story told by the teacher. In the straight reproduction story the child is merely repeating what he has already heard. In the picture study lesson, however, the child is thrown more on his own invention. Here he must construct a story himself—aided, of course, by the picture and the teacher's questions—and must produce this story in his own words.

Since the aim of such lessons is to give him practice in the use of English, pictures which suggest stories are best suited to the purpose. The covers of magazines, coloured prints from women's magazines, pictures taken from children's books, and a good many popular prints supply excellent material. Frequently suggestive story pictures can be found in the advertising section of popular periodicals. In rural schools, where only a few children are to examine the picture, a small one will serve; but in a graded city school it is wise to have a print large enough to be visible from any part of the room. Vivid colouring not only makes a picture more interesting but adds to its visibility.

In this type of lessson there are great possibilities. The children's interest can be held and their imaginations set working in it as readily as in any kind of composition exercise. Where such a lesson is a failure, the cause may usually be found in faulty method.

Fundamentally the method is quite simple. The teacher asks a number of questions leading up to a story; the children answer the questions and then tell the story. But even in this simple procedure there is room for defective teaching.

The lesson printed below was taught by a student in a model school, and was taken down in shorthand without her knowledge. When she had finished she was aware herself that she had failed to produce any very valuable results. At the close of the period she said to one of the critics, "Oh, wasn't that dreadful! Those children seemed to have so little imagination. What was the matter?" The critics were unable to give her any satisfactory answer, but when the lesson was transcribed from the shorthand notes and shown her, she picked out the errors herself. Since these errors are typical the lesson has seemed worth quoting.

It was taught in a second form class from a picture of some children playing in a wheat field. Not all of it has been quoted but enough to serve the purpose.

T. Why did these children come to the wheat field?
P. They came to play.
T. Another suggestion?
P. Because they wanted to play house in the hay,* and hide-and-seek.
T. You said they were playing house, but what else might they be playing?
P. They might be playing store.
T. You?
P. They might be playing tag.
T. I don't think they are playing tag. Another suggestion?
P. They might be sewing.
T. Yes the girls might be sewing. But look a little more carefully at the picture.
P. They're jist sittin' there.
T. (Points to another).
P. They might be playing school.
T. Now why isn't Jack in the school?
P. There might not be room for him.
T. Yes, that might be so. Your reason?
P. There are no other boys with him.
T. Yes, he might be bashful and not like to go in with the girls. Another suggestion why Jack might not be in the school.
P. I think he might be telling them a story.
T. Yes, he might be the teacher teaching the others. I am sure that you have all played in the hay. How did you play in the hay?
P. I got up on the big barn and jumped in the hay.
T. You?
P. I went an' lay down in the hay an' went to sleep.
T. When did you wake up?
P. I stayed there till supper-time.
T. How did you play in the hay?
P. I played store in the hay.
T. How did you play store?
P. (Silent).
T. We would like you to tell us.
P. (Silent.)

*The children call the wheat hay from this point on.

T. Then we will have—tell us how she played in the hay.
P. (Silent.)
T. Russell?
P. I built houses in the hay.
T. Did you enjoy yourself when you played in the hay? Yes I am sure you enjoyed yourselves when you were playing in the hay. What makes you think these children are enjoying themselves?
P. (Silent.)
P. They are laughing.
T. Did anything happen while they were playing here?
P. No.
T. Perhaps there was.
P. There might have been a rain.
T. Yes, there might have been a rain. Yes, I think something happened.
P. The hay might have fell on top of them.
T. Another thing that might have happened?
P. Their mother might have called them in.
T. How long did they stay here?
P. They might have stayed all day.
T. Yes, they might. You?
P. They might have stayed just a short time.
T. Why?
P. They look as if they had just come.
T. Well—well—why does that make you think they did not stay long?
P. They have no hats or coats on.
T. How long do you think they stayed?
P. I think they stayed just a little while.
T. Now I want someone to come up and tell me the story of this picture.
P. Once upon a time there was three little girls and a little boy goin' out to play in the hay. And the three little girls were in a stack. And the little boy stayed out and he was telling a story to them. (Stopped for several seconds.)
T. Did nothing happen while they were out?
P. (Silent.)
T. Do you think nothing happened?
P. (Stuck and embarrassed.)
T. (Turns to class) Who can tell what happened?
P. (From class) A rainstorm came up.
P. (In front of class continues)—I think there was a rain storm coming up. There was a big black cloud coming up at the back and they thought they would go home. (Stops.)
T. Anything else?
P. (Silent.)
T. Did they go home?
P. Yes. As soon as they saw the cloud come up they thought they would go home. And they all went home together.
T. How did they feel when they got home?
P. Happy.

In the above lesson there are two outstanding faults of method. In the first place the teacher has apparently misunderstood the true nature of a story. She has forgotten that a story to be vivid must have a sem-

blance of reality; and the nature of things in reality is that they must be just so and not otherwise.

Instead of letting the pupils suggest one reason for the visit to the wheat field and then encouraging them to pass on to the next detail in the story, the teacher pauses to get several suggestions on this preliminary point. The first child to answer gave a reasonable suggestion—the children wished to play house. That this explanation seemed acceptable to the class is evident from the fact that the next pupil to answer simply repeats this suggestion, and then adds the alternative of hide-and-seek. Apparently even this does not satisfy the teacher for she again and again asks what they might be playing, until finally one disgusted little chap gets to his feet and says, "They're jist sittin' there".

It is easy to see what was working in the boy's mind when he made this answer. He has heard one good suggestion after another given, and seemingly none accepted. He for his part has come to the conclusion that this teacher simply does not know what she wants.

The teacher's reason for getting these different notions for the cause of the visit is clear. She believed that by leaving room for individual choice she was encouraging the pupils' imaginations, and therefore she followed this policy throughout the lesson. But it is evident that her theory was wrong. Towards the end of the lesson the children were less imaginative than at the beginning. To them a story, if it is a really truly story, as Mr. Kipling found out, must be "just so'?. No matter how outrageously impossible the tale may be, for the time being it is accepted as real. The whole thing is a game of pretend. And to kindle the imagination the authors, whether they are Kiplings or school children, must play the game and pretend that things happened "just so".

Even grown-up people would be disillusioned by a "might have" story such as the above. Imagine, for instance, coming on such a story as the following in a popular magazine:

There was once a lady who might have been young or old or just middle-aged. There was also a gentleman of similar problematical age, who might have called on her on Sunday, or on Monday, or on Tuesday, or, as a matter of fact, on every night of the week. He might have come to talk to her about insurance, or he might have come for more personal reasons. On one particular night of the week at half past ten her father might have dropped his boot on the floor above, or again he might have put on his boots, both of them, and come downstairs. Here he might have sat down and joined in the conversation, turning it perhaps to the Dominion elections. Or he might have used the above-mentioned boots for the forcible ejection of the young, old or middle-aged man through the front door, or through the window. Again he might merely have offered the gentleman a cigar. After the old man retired the gentleman

might have asked the lady a question, a very personal question. She, for her part, might have said "yes", she might have said "no", following which anything might have happened, especially if her young brother was still under the sofa.

There is a story, possible in every detail, yet completely failing to give the effect of reality produced by one of Kipling's "Just So Stories". To kindle the children's imaginations the teacher of the above lesson, instead of getting such a variety of suggestions, should have accepted the first good one, and have gone on from that to the construction of a single consistent story. The result would probably not have been what any one of the pupils would have produced by himself. But such a story is not meant to be an individual product. It is a class production.

The second fault in the above lesson is that the teacher does not follow any plan in working out the details of the story. She jumps from what the children in the picture are doing to what the pupils themselves might have done and then back again to the picture. Now, to be well ordered a story should begin at a certain point and pass through a series of episodes to a definite conclusion. There should be what Aristotle describes as beginning, middle and end. When a narrative is being built up by a number of pupils, each one of whom may suggest some detail unexpected by the rest, it is difficult to develop a consecutive story. But if the teacher has in her mind a more or less systematic plan she can, by her questions, lead the pupils along in the right direction.

The following plan may be used as a basis for all such lessons:

I. Explain the time, the place and the characters of the story.
II. Imagine the events leading up to the situation represented.
III. Describe what is actually taking place in the picture.
IV. Give an account of the events which may be supposed to develop from such a situation.

If the teacher consistently keeps this plan in her mind and persists in her questioning until each part of it is fully worked out, she will find at the end that the pupils are able to tell a fairly consecutive story.

Music in Public Schools

A. T. CRINGAN, MUS. BAC.

The Child's Voice

AMONG the many possible arguments in favour of music teaching in schools none is more frequently adduced than the assertion that "Music exerts a most refining influence on the minds of the pupils and inculcates a love for that which is beautiful". This is

undoubtedly true, provided the music is worthy to be classed as such and is interpreted with due regard to its artistic possibilities. A group of children singing a song of the sort sometimes classed as "popular", in a harsh, raucous quality of tone, cannot be considered as engaged in producing an artistic effect on the minds of their hearers or adding to their own artistic development. It must be frankly admitted that such effects have been, occasionally, heard in the past, but, fortunately, are becoming much rarer as teachers become increasingly conversant with the nature of the child's voice and the methods to be employed in developing its artistic possibilities. At one time professional musicians were wont to express grave doubts as to the advisability of school teachers being entrusted with the training of young voices, but results have shown that the average teacher, who has taken the trouble to study the voice and how to train it, may train her young pupils to use their voices in a natural manner, without strain, and with highly artistic effect. In considering this subject we must not lose sight of the fact that the vocal training available for a large majority of children is confined to that which they may receive during their attendance at public or separate schools. The object of this article is to explain, in a simple manner, unhampered by technicalities, the vocal organ and the mechanism by which a pleasing tone quality may be produced.

In a study of the voice three fundamental elements have to be considered. These are the Motive Power, the Vibrators and the Resonators. Of these the first is the more important. Without adequate control of the breath, which forms the motive power, a really musical tone is impossible of attainment. One of the old Italian masters is reported to have declared that "He who knows how to breathe and how to pronounce, knows how to sing". The full import of this statement can only be appreciated by those who have made an exhaustive study of the subject of voice production in its many phases. Most of the faulty vocal tone and nearly all of the vocal ailments to which we are accustomed, are directly attributable to incorrect methods of breath control. To understand how to avoid faulty tone production and develop an easy, natural method of producing the voice, a knowledge of the working of the breathing apparatus is necessary.

During their training course most teachers have learned something of the action of the lungs, diaphragm and ribs during the process of inhalation and exhalation. They know that the lungs are wider at the bottom than at the top, that the diaphragm is a powerful muscle, forming the floor of the chest cavity, and that the ribs are capable of lateral expansion in such a manner as to increase the capacity of the air chamber to a considerable extent. The fact that the lower ribs are much longer than the upper, and also, that the elastic ligaments which connect the

ribs with the breast bone are greater in length and more flexible in the lower than the upper, teaches an important lesson. Should the control of the breath be confined to the upper part of the chest the breathing will be unsteady and unreliable. During inhalation pupils should be directed to stand firmly on the balls of the feet while placing the hands on the sides, just above the waist line, in order that the expansion of the lower part of the chest may be readily felt. The upper part of the chest should be kept fairly well raised and comparatively steady, the movement being confined almost entirely to the diaphragm and lower chest muscles. If the breath is retained for a few seconds, by simply keeping the lower chest expanded, the pupils will learn to feel what muscles should be employed in controlling the outflow of the breath.

The following exercises will be found exceedingly helpful:

1. Take breath as above while the teacher counts four slowly, then hold the breath while a similar count is made. On the count of four the chest muscles should be allowed to relax when the breath will be suddenly exhaled.

2. Instruct pupils to take breath for four counts and hold for the same, as in previous exercise, then let the breath go silently for an additional four counts. The mouth should be very slightly opened during the exhalation and good results should be obtained if the pupils are directed to let the breath go very gently, as if in blowing a bubble pipe.

3. When this has been repeated several times and the pupils seem to have gained a reasonable control of the breath, instruct them to take and hold the breath as in the first exercise, then let the breath go while singing the vowel O very softly. In subsequent lessons this should form the basis of all exercises intended to cultivate breath control, other vowels, as Oo, Ee, and Ah being used. Slow scale passages should follow, each tone of the scale being sustained for four, six, or eight beats, as the adequate control of the breath is developed. The scales of D, E flat, E, and F, will be found most suitable for this purpose.

The Vibrators which convert the breath into tone consist of the Vocal Ligaments, situated in the Larynx. These are two very delicate bands of muscular tissue, capable of variable adjustments of a somewhat intricate nature. Books have been written on this single phase of voice production and still there is no real unity of opinion as to the action of the vocal ligaments in producing the various registers found in all voices. "Register" is the term applied to a series of tones produced by one setting of the vocal ligaments. Various names, such as Chest, Middle and Head, have been applied to the various registers, but authorities differ as to the actual compass of these in the voices of men, women and children. While a knowledge of the actual working of the laryngeal

muscles is decidedly useful in directing vocal exercises, the average teacher need not be deterred from undertaking such direction, provided she is possessed of a sufficiently keen sense of hearing to enable her to detect the different qualities which characterize the various vocal registers. In this respect the female teacher has a distinct advantage over the adult male, as the registers in the voices of girls and boys are practically the same as in the voices of women. When boys reach the period of adolescence their voices gradually change until they become tenors and basses.

In order that the teacher may acquire a practical working knowledge of the various registers she should investigate their production in her own voice by singing, very slowly, upwards from Middle C. When F of the first space in the Treble Clef is reached, a distinct change in the tone quality will be observed and, again, when C of the third space is reached, a similar change will be noticeable. These two places mark, approximately, the junction of the three registers characteristic of the child's voice. The essential facts to be learned in this connection are that the rise in pitch of the successive tones is secured by *an increase of tension in the vocal ligaments*. When this has been continued until F and C respectively have been reached, it is inadvisable and decidedly unwise, to continue it further. Nature has made a wonderful provision for the production of tones above the two junction points, in which the tension is relaxed and a readjustment of the vocal ligaments takes place. Following this readjustment a gradual increase of tension again takes place until the upper junction point is reached. From the experiment just described, the teacher should learn several important principles pertaining to vocal production. These are, First: that the voice should not be carried above either of the junction points without change. Second: that the forcing of any register above its natural compass produces strain and is injurious to the voice, in addition to causing the tone to become harsh and disagreeable. Third: that the tones above C of the third space, although somewhat lighter in volume than the lower tones, are much sweeter in quality.

The most important lesson of all that may be derived from a study of the vocal registers is that, in nearly all vocal exercises, the aim should be to carry the quality of the upper register *downwards* until it blends with that of the lower. This is accomplished by practising descending scales, commencing at E, E flat or D. The guiding rule of all vocal teachers who understand this subject is "Sing *softly* on the *upper* tones and the registers will take care of themselves". No injury can be done to the vocal ligaments by carrying any register *below* its natural compass, as this is accomplished by a *decrease* in the tension of the vocal ligaments.

The Resonators, which modify the tone and give it its musical

quality, are the Pharynx, Mouth and Nasal Cavities. The action of the soft palate has a directing influence on the tone, as when properly used, it tends to concentrate the tone in the front of the mouth, just above the upper teeth. The shaping of the lips determines the quality of the vowel sounds on which alone can tone be sustained. In this respect there is a large field for missionary enterprise on the part of our Canadian teachers. The speaking voices of our children are far from being as clear, and resonant as they should be. In communities where the children have had instruction in singing during their public school course the improvement in this regard is readily noticeable. The principal defect observable in the voices of untrained children is the tendency to pronounce nearly all vowels with one stiff position of the lower jaw. What is wanted most of all in vocal training is RELAXATION. This need is recognized in the teaching of writing, in which pupils are directed to practise certain movements until the extrinsic muscles have become so relaxed that the intrinsic muscles may be free to perform their necessary functions.

In conducting exercises intended to secure vocal resonance it is not advisable that the attention of the pupils should be directed to the organs immediately engaged. Any reference to loosening of the jaw, keeping the tongue flat in the mouth, or opening the mouth widely, usually result in increasing the tension of the muscles concerned, thus defeating the object most desired. The teacher is advised to commence with the vowel Oo, treating it as the model for all others. This should be preceded by the exercise in taking, and holding the breath, previously described, then singing the vowel on successive scale tones for four seconds. It will be observed that the aperture of the mouth is small and rounded. This vowel brings the tone well forward in the mouth, just where it should be for all vowels. Pupils should now be directed to slowly, and gradually enlarge the vocal aperture, while retaining the same sensation of vibration in the front of the mouth as when singing Oo. The result will be a gradual transition from Oo to Ah, with the vowel Oh midway between. In any succeeding exercises the vowel Oo should be first sung and blended into the vowel desired in order that the forward quality of the prescribed vowel may be secured. Example: the teacher desires to drill on the vowel Ee. Pupils should be directed to sing Oo—Ee while retaining the quality of Oo. At first a very limited number will succeed, their tendency being, probably, to widen the vocal aperture laterally and display the teeth, thus directing the tone on to the edge of the teeth on which it is broken up and rendered most unmusical. A good pattern from the teacher's own voice, followed by directions to retain the same ringing, or humming, sensation as with Oo will usually succeed in securing the desired tone quality. The scale exercise should

now be sung to the vowel Ee throughout, the attention being directed to retaining the Oo quality to the end.

It is important that no scale, or voice exercise be used as such until the pupils know it by heart. Should their attention be given to the *notes* to be sung the production of *tones* must inevitably suffer.

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Games for a Primary Class

(Continued from January number)

15. *Circus Game.* A leader is chosen who stands before class and says: "I went to the circus and saw a giraffe." The next child says, "I went to the circus and saw a giraffe and———," naming another animal of his own choice. The next player repeats all that the previous players have said in exactly the same order, adding a third animal. Insist on exact wording. This game develops power of concentration and attention.

16. *Ducks Fly.* Children stand in rows. The leader stands in front and gives the names of birds saying, "Robins fly" or "Bluebirds fly," etc., raising her arms sideways to shoulder height and down again in imitation of wings. The children follow the motions. The leader after giving a number of birds' names suddenly changes to the name of something that cannot fly, as "Ducks fly," moving her arms as before, while the children must keep theirs still. If a child makes a mistake he must take his seat. The last child standing is the next leader. The game and the next two tend to cultivate intellectual alertness.

17. *Simon Says.* "Simon," a leader, stands in front. He commands "Simon says" raise arms, hips firm, knees bend, etc. If he omits "Simon Says" before his command the players should not do the movement even though he does. Anyone failing in this must be seated.

18. *See-Saw.* The row of children in the centre of the room sit upon their desks and raise their arms at the side to represent the see-saw board. Children in rows on either side stand, facing the see-saw child, and take hold of his extended hands with both of theirs as if grasping a see-saw board. All sing the "See-Saw Song" in the Gaynor Book or in *Graded Games for Primary Schools* by Marion B. Newton.

"See-saw see saw, up and down we go,
See-saw, see saw, swinging high and low,
See-saw, see-saw, gaily now we play,
See saw, see saw, happy all the day."

The children bend low and rise high as the board goes up and down. This is also played by the rows standing erect and each child bending left and right as the leader does.

19. *Hide the Thimble.* One player is chosen to hide the thimble and while he is doing so the other children shut their eyes. The thimble may be placed "in sight" or hidden entirely. The leader says "Hunt the thimble" to the other players. Their distance from the thimble is made known by the child who hid the thimble calling out "Warm," "Hot" or "Cold." The finder hides the thimble in the next game. The game tends to cultivate sense perception—hearing.

20. *Squirrel Game.* Children put their heads on their desks and shut their eyes. One hand is open to receive a nut which the "squirrel" drops into it. The child receives the nut, then runs after the squirrel and tries to catch him before he reaches his seat. The game helps to develop sense perception, touch and hearing.

21. *Who art Thou?* A child is blindfolded by means of a paper bag; the rest move in a circle around him until he says, "Who art Thou? Halt." The blinded player advances and touches some one whom he must recognize by feeling his clothing, hair, etc. This cultivates sense perception, touch.

22. *Observation Game.* One child leaves the room, an object is hidden and the child recalled. When far away from the object the children in their seats sing very softly, as he approaches it the tones grow louder.

23. *Have you seen my friend?* The children form a circle. One child walks around the outside, and touching some one on the back asks, "Have you seen my friend to-day?" The one questioned answers, "How is she dressed?" The dress of some child is described as "She has a blue dress and white stockings." The child thus described if she recognizes herself runs around the outside of the circle and tries to reach her place before being tagged. If tagged she is "It" and the first child takes a place in the circle.

24. *Finding.* The teacher shows an interesting object to the school. Five or ten children leave the room and the object is placed where it can easily be seen. The children return and as each discovers the object she quietly takes her seat until all are seated. Another group leaves the room and the object is placed in another place. This is excellent for observation, concentration and quietness.

25. *Ball Game.* Select seven children and name them after the days of the week. The teacher bounces the ball and calls "Tuesday" and the child whose name is Tuesday should catch the ball. Continue this way calling the different days of the week. The child missing the ball takes her seat. Increase the distance from the players to the ball.

Twelve may be selected and the months of the year be the names used or four for the seasons used. Again, we have played it using animals in a circus or colors of the rainbow for names.

26. *Memory Game.* Give John two objects, e.g., a ball and a horn. Have him give these to two children, pass to the front of the room and with his back to the school call for them thus: "Tom, please give me the ball." When Tom has given the ball, John should say, "Thank you, Tom" and call for the horn. Give Mary three objects and have her pass them out and call for them as John did. After some practice children are able to pass out and recall six or seven objects. Memory, concentration, language and politeness are cultivated through this game.

27. *Touch Game.* Have samples of wool, cotton, linen, silk, linen thread, cotton thread, silk thread and yarn. Arrange five or six children in a row with their hands behind them. Place in the hand of each child a sample of one of the above named materials and from the sense of touch he is to tell what he has. Different sounds may be tested in a similar manner.

28. *Cats and Mice.* One player (Cat) is placed under a table or in a corner. Four or five other players (mice) creep softly to the table or blackboard. At a signal the mice scratch on the table to represent the nibbling of mice. As soon as the Cat hears she runs out and gives chase to the mice who run back to their holes (seats). The one caught turns into a Cat. Different mice are chosen each time to give all an opportunity to play.

29. *Seat Exchange.* The children are seated in their rows and the rows numbered. At the command "Change!" row No. 1 runs around to row No. 5 (the last row). While they are running No. 2 slips to No. 1, and No. 3 to No. 2, etc., leaving No. 5 vacant for No. 1, when it reaches there. This is continued until each row is back again to its own row.

30. *Jumping Game.* Each row stands at attention. As numbers are called they perform certain actions. 1. Turn. 2, Hands on desk and chair. 3, Jump over seat. 4, Turn. 5, Same as 2. 6, Same as 3. Two or three jumps increase their circulation and make them ready for work. Prompt obedience to the commands is necessary.

31. *One-legged Race.* The players form in a long rank on the starting line. At the command "Go!" they hop forward to a goal decided upon, jump three times on both feet and hop back to the starting point.

32. *The Rabbits in the Orchard.* One player stands in the centre of the playground or space, with twelve large bean bags. The other players sit around him sound asleep (heads in arms). The player in the centre throws the twelve bean bags, one at a time, in different directions and as far as he can; then he calls: "There are rabbits in the

orchard; let us bring them home." At this all jump up and hunt for them. After a player has found one rabbit he must *hop* back from the hunt. The game is to see how quickly the twelve can be found and brought home, how lightly the hopping can be done and how sharp the eyes are.

33. *Hopping Toads.* The toads form in a circle and join hands. One toad stands in the centre with a rope about the length of the radius of the circle. On the end of this rope a bean bag is securely tied. The centre toad swings the rope in a small circle first, keeping it close to the floor; he gradually enlarges the circle until the bag comes in line with the feet of the toads in the big circle, who must jump to avoid being hit by the bag. Whichever toad is unfortunate enough to be hit must exchange places with the centre player. Sometimes we change the hopping toads to dancing bears.

34. *Japanese Tag.* One player is "It" and tries to touch or tag the other players. When a player is touched he must place his left hand on the spot touched, whether it be his back, knee, elbow, ankle or any other part of the body and in that position must chase the other players. He is relieved of this position only when he succeeds in tagging some one else. The children enjoy this. "It is so much fun," they say.

35. *Animal Tag.* Mark off two pens in different parts of the room or playground. A chaser stands at one side of one of these pens. The other players stand in one of these pens. The teacher gives each an animal name or each child may decide for himself his animal name. There may be several deer, foxes, bears, lions, etc. The chaser calls the name of any animal he chooses. For instance, he may call "Lions!" The lions must run across to the other pen without being caught by the chaser. If a player is caught he changes place with the chaser and he may call, for instance, "Deer!" and all the deer run to the pen. Proceed thus until all are in the second pen when the names are changed and the game repeated.

Language Training in Form II (Grades III and IV).

MISS KATE STURGEON
Orde St. Public School, Toronto

OUTLINE OF A LESSON IN ORAL COMPOSITION—STORY REPRODUCTION
JUNIOR SECOND CLASS

Preparation (a) Selection of a short story suitable for children of this grade. Long stories may be shortened by selection of essential matter.

(b) Write the story in short simple sentences likely to be expected from children of this grade. Avoid the use of "and's" as much as possible.

(c) Select main "pictures" (paragraphs, divisions).

(d) Have on the blackboard "picture" frames ready for "pictures"—paragraph divisions to be developed later from children.

(e) Have on the blackboard a list of new or difficult words used in story. Let the list be covered during telling—(to be uncovered later). The words may also be written on the blackboard by teacher as story is being told.

(f) Prepare questions that will be answered by sentences in the story to be reproduced.

Introduction (1) An introduction is not always necessary. In the story of The Gourd and the Pine Tree—(in *For the Children's Hour*, by Carolyn S. Bailey) explain by picture or blackboard illustration what is meant by "Gourd." Write word on the blackboard. Let us take as an example of a reproduction lesson, the story of "The Lion and the Mouse."

(2) Before telling, ask the children to watch for pictures. Tell the story to the end in your own words without interruption showing by manner and voice your own interest in what you are telling.

(3) "What is a big story made up of?" "It is made up of a number of little "stories" (sentences)." "How does each little 'story' begin?" "It begins with a capital letter." "How does each little story end?" "It ends with a period." (Later on, as need arises, question marks, exclamation marks, and quotation marks will be introduced).

"We are going to play the story game. Each pupil who answers my questions may be one of the little 'stories' helping to build up the big 'story.'"

(4) Review the story by questioning in sequence, e.g., "Who was lying asleep in the forest one day?" Answer: "One day a lion was lying asleep in the forest." (See "f" in Preparation).

Correct any errors that may occur. Require complete statements.

As each little "story" is told, pupil tiptoes to front of room in order of telling and a line is formed. When story is finished, pupils are asked to tell how many little "stories," capital letters and periods were needed for the big story.

Children retell the story without the aid of questioning (slow pupils may need this help)—first "story" first, etc. Correct any errors.

Other children are chosen. A new line is formed. The story is retold. Correct errors. Commend variety in expression. Write any new words on blackboard.

Children change places in line. The story is retold.

Value of Method (a) Pupils recognize the sentence as a unit. Each child represents a sentence. (Punctuation) (b) Many pupils have an active part in lesson. (c) Shy or backward children will reproduce one "story" when they would not attempt to reproduce whole story. Later on in lesson, many children who could not reproduce story as a whole after it had been told to them, will be anxious to tell because of confidence acquired in the Story Game. We ourselves read the story several times before we are ready to tell it as a whole.

(5) Develop "pictures" seen (paragraph divisions). In the story of "The Lion and the Mouse," pupil tells what he saw—earth, sky, trees, sleeping lion, little mouse near by. Teacher fills in picture. (Small pictures of animals may be placed on the blackboard with dots of plasticine). Pupils suggest a name for picture. Most suitable one is written under picture, e.g., "The Mouse in Trouble," Second picture is described—sky, earth, trees, lion in trap, mouse near ropes. Most suitable name is written under picture, e.g., "Helping the Lion."

(6) One pupil at the blackboard tells "stories" belonging to first picture, placing a little mark beside picture for each "story" told. Encourage the use of short sentences to avoid the use of "ands". No "story" is allowed to begin with "and." Correct any errors that may occur. When finished, pupil counts marks—and tells class how many sentences, capital letters and periods were used. Allow pupil to reach period before correcting error.

(7) Reproduction of "stories" belonging to picture two. Method as in (6).

(8) Name is suggested for story as a whole. Most suitable title written on the blackboard above pictures. Attention is drawn to need for capital letters in title.

(9) Reproduction of story as a whole. Use method outlined in (6). Encourage variety in expression—use of words taught in spelling lessons, and words and phrases seen in Readers, etc. The value of the method of insisting upon answers in all lessons being given in complete statements will be recognized in a lesson of this kind. When the novelty of the story "game" has worn off, the same method may be followed, omitting the "story line" of children at the front of the room. Children remain at their seats and sit after the answer has been given.

Later on, after interrogative, exclamatory, imperative, and quotation sentences have been taught, they may be used in story reproduction, e.g., "How frightened the little mouse felt when the lion caught him!" The little mouse said, "Thank you, Mr. Lion. Perhaps I shall be able to help you some day."

Practice in the use of complex ("When," "If," "Although," "Just

as," etc.) sentences will be followed by their application in oral and written reproduction.

Toward the end of the term when, through practice, pupils have gained fluency and an increased vocabulary, it will be interesting to have oral and written reproduction of the same story and notice progress made.

Geography for the Grades

PROF. GEORGE A. CORNISH

FOR THE SECOND FORM (GRADE IV)

Lesson on a Hill

There is nothing duller or more deadening in geography than to have pupils memorize definitions. Usually they do not understand the meaning and merely learn to say parrot-like the words of the teacher. It is true pupils should know the common technical words used in geography just as they know the technical words in history, arithmetic, or any other subject; but that is no reason why the teacher should make a fetish of definitions, and the pupils should be drilled on them for weeks or months at a time. It is proposed to treat one of these terms, namely a hill, as they all should be dealt with.

We will assume that there is a hill of some kind in the neighbourhood. Have the pupils answer the following questions as a result of their own observations. Stand on the highest point of a hill and notice in how many directions it slopes. What becomes of the water that falls on the hill? What positions have the nearest drains, or creeks, in relation to the hill? How do the roads and railways in the neighbourhood avoid going up and down the hill? On which slope of the hill does the grass become green first in the spring? Are any houses in your district built on hills? Why? On which side of a hill should a house be built in order to be best protected from the cold winds of winter? Which is easier to cultivate, flat or hilly land? Which is more easily drained? Is the top of the hill or the valley more fertile? Name all the advantages to a district of its hills. Name the disadvantages.

If the pupils have thought out the answers to the above questions they will have learned some very valuable causal relations of hills and mountains to transportation, climate, drainage, and cultivation, and if they understand these causal relations it does not much matter whether they can define a hill or not. Indeed, no good definition of a hill can be given. Many hills are more than two thousand feet high and all the mountains in Ontario are less than two thousand feet high, so what is

the use of teaching pupils that a hill is an elevation of land less than two thousand feet high when the definition is contradicted by every mountain in the province?

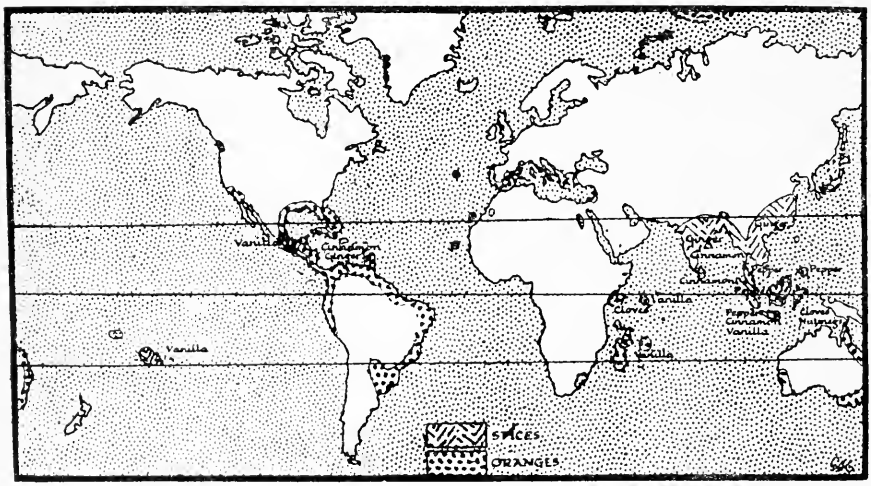
FOR THE THIRD FORM (GRADE VI)

Lesson on Spices and Extracts

Have pupils work the following exercises:

Examine the following spices: Nutmeg, whole cinnamon, whole black pepper, cloves, whole ginger, allspice, carraway, and vanilla pods. Soak the pepper, cloves, nutmeg, and allspice in water until they are soft, then cut them across in order to study their structure. Which is a piece of bark? Which is an unopened flower? Which is a nut? Which are dried berries? Which is a fleshy root? Which is a pod?

The following information can then be taught by the teacher with a map of the world before her:



There are several kinds of pepper. Black pepper is the dried berry of a climbing vine, which is picked before it is ripe. To obtain white pepper the same berry is allowed to ripen, the skin and pulp are removed, and the seed is dried. Black and white pepper are usually ground before they are used. The greatest quantity of pepper is grown in the East Indies and Malay; some comes from the West Indies. Cayenne pepper is an entirely different substance. It is the ground pod of a plant, which is found in the same regions as the other kinds of pepper.

Cinnamon is the inner bark of the younger branches of a small tree. The best quality and the largest quantity comes from Ceylon. Inferior cinnamon is grown in the West Indies and Brazil.

Cloves are the unopened flower-buds of a tropical tree, which are picked and dried. The oil of cloves is sometimes extracted from the buds with water and is used as a medicine. Though cloves originally came from the East Indies, the Island of Zanzibar on the east coast of Africa is now the chief source of supply. Cloves are also grown to a less extent in the East and the West Indies.

Ginger is the dried underground stem of a reed-like tropical plant. This product comes from both the West and the East Indies, and also from Western Tropical Africa. Besides being used as a spice, it is candied and used as a sweetmeat.

Nutmeg and mace are products of the same plant. The surface of the Banda Islands on the East Indies is covered with nutmeg trees, which grow fifty to sixty feet high and bear fruit throughout the year. The fruit is pear-shaped and about two inches in diameter. It splits into two halves and the husks fall off. The thick covering of the seed, which is removed and dried, is mace. The seed is dried for three months in ovens, and the shell is then removed from the kernel, which is the nutmeg of commerce.

Allspice is the dried, unripened berry of an evergreen tree growing in the West Indies. The chief supplies come from Jamaica.

Vanilla is an extract from the long pods of a climbing tropical orchid, which grows most abundantly in Mexico and some Pacific tropical islands. The beans, which are sometimes ten inches long, are allowed to ferment and are then soaked in alcohol. The alcohol dissolves the substances which are so pleasant to taste and smell. This solution is bottled and sold as extract of vanilla.

For home work, have each pupil on an outline map of the world, mark in the distribution of the above described spices and extracts as indicated in the map.

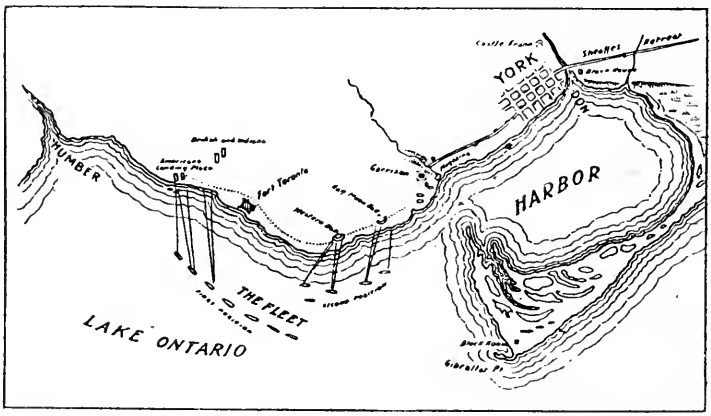
Grammar In The Fourth Form

JUNIOR FOURTH (GRADE VII)

CLASSES in Ontario will have covered the work up to chapter XI in the text-book before Xmas, and it will be profitable therefore, to review rather thoroughly the classification of clauses and phrases as parts of speech, and of sentences as simple compound and complex.

1. In April *1813*, an American fleet of fourteen vessels sailed from Sackett's Harbour. 2. On board these vessels was an army of about seventeen hundred men. 3. On April 27th, this strong force appeared near York, which was then the capital of Upper Canada. 4. The village, which at that time had only nine hundred inhabitants, was

situated on the Don River. 5. About 7 a.m., the Americans landed their army near Sunnyside, which you will see on the accompanying map. 6. General Sheaffe sent a small force to *oppose* the Americans, but it did not arrive in time. 7. Only Major Givins and forty Indians obstructed the landing of the invaders. 8. After the Americans had completed their landing, they began *to march* east along the shore. 9. As they proceeded, a larger British force gathered. 10. General Sheaffe's soldiers fought so well that the American army took five hours *to reach* Garrison Creek, which then flowed into the mouth of the harbour. 11. On their way they had passed Fort Toronto. 12. This was an old French fort then in ruins. 13. On its site there is now a large stone monument which stands near the lake in the Exhibition Grounds. 14. A little farther to the east two British batteries vainly opposed the Americans. 15. Till noon General Sheaffe hoped *to save* the capital, but he then saw that he *could* not do *so*. 16. *To stop* the American advance for a short time he ordered his *officers to blow up* the magazine near Garrison Creek. 17. They did *so*. 18. The explosion killed fifty-two Americans and wounded one hundred and eighty others. 19. In the confusion General Sheaffe



Map showing the attack on York, 1813. Hannay: *The War of 1813*

retreated towards Kingston with one hundred and eighty men. 20. The American army then advanced to the village, which surrendered promptly. 21. After *burning* the *Parliament Buildings* the Americans retired. 22. They had captured a large amount of war material, but they had lost about two hundred and eighty men. 23. The British had lost about two hundred men. 24. The fort which then stood near Garrison Creek is still standing near the foot of Bathurst St., but the creek has disappeared. 25. Many boys and girls have passed the fort on their way to the Exhibition Grounds. 26. All should examine it carefully at the first opportunity.

Exercises

1. Classify the sentences of the extract as simple, compound, or complex.

2. Classify the subordinate clauses of the extract as noun, adjective, or adverb, and show the relation of each in its sentence.

3. Classify the phrases of the extract as noun, adjective, or adverb and show the relation of each.

4. Pick out the bare subjects and bare predicates in the first ten sentences.

5. Select all the nouns, and explain the relation of each.

6. Classify the verbs in the extract as complete, or incomplete, and name the subject of each verb.

7. Select all the objects and complements in the extract, and name the verb with which each is connected.

8. Pick out all the prepositions, and explain the use of each.

9. Pick out all the conjunctions, and explain the use of each.

Note—Words in italics are to be omitted by the Junior Fourth class.

Senior Fourth Class (Grade VIII)

It is assumed that this class has reviewed the work of the Junior Fourth Class, and has covered for the first time chapters xvii-xix in the Ontario Public School Grammar. The following exercises will help the pupils to review the more important features of the grammar studied during the previous term.

Exercises.

1. Classify the sentences in the extract about the taking of York in 1813.

2. Classify the subordinate clauses in the extract.

3. Classify the phrases in the extract.

4. Classify the names of the extract as masculine, feminine or neuter, and explain the syntax of each noun (its relation to other words in the sentence).

5. Classify the pronouns of the extract, and explain the syntax of each.

6. Classify the verbs of the extract as copula, transitive, and intransitive.

7. Select all the verbal *nouns* or *infinitives*, and explain the syntax of each.

Special Difficulties Explained

1. *So* (sentences 15 and 17). In each of these cases *so* is a demonstrative pronoun, object of the verb.
2. *Could* in sentence 15 is a transitive verb (can, could). Its object is the infinitive *do*.
3. *Officers*. This noun in the objective case is the subject of the infinitive *to blow up*. The sentence might have read: *He ordered that his officers should blow up the magazine*. In such a sentence the clause beginning with *that* would be the direct object of the verb *ordered*. In the sentence as it reads in our extract, the infinitive phrase, *his officers to blow up the magazine near Garrison Creek* is the object

of the verb *ordered*. Many grammarians claim that this so-called phrase is really a clause, not a phrase, since it has a complete subject and a complete predicate (see Jones, Horning and Morrow, *A High School Grammar*, J. M. Dent & Sons, Ltd., pp. 53, 150). G. M. J.

British History For The Fourth Form.---(Grade VIII)

AN EXAMPLE OF THE PROBLEM METHOD

Three main propositions should be followed in the conduct of the lessons in history.

1. The first consideration is to foster, not to kill, the love for history in the pupils.

2. This can be best accomplished if the pupils are working problems, the solution of which gives satisfaction.

3. The interest-span or the size of the problem must be adapted to the age of the pupil.

The leading thought of the preceding lessons in this class has been to try to explain conditions in the British Empire to-day by seeking an answer to these problems:

1. What contribution to British character was made by the races—Britons, Romans, Saxons, Danes, respectively?

2. The Saxon ideals and the new Norman ideals clashed head-on. Which is going to come out on top?

3. How were the United Kingdom and the Navy built up?

(*a*) United Kingdom of England, Ireland, Wales, Scotland.

(*b*) The abortive attempt at carving out a destiny on the continent.

(*c*) The embarking upon the fated way under the Tudors.

The following is the first lesson on topic: 3 (*c*)

HOW WAS THE WAY PAVED FOR SUCCESS?

Review and Preparation.—

1. How was the United Kingdom (except Scotland) formed? or How did England, Ireland and Wales become one State? (Question through briefly).

2. In what direction was the next attempt made? (Map, including France; the latter to be rubbed out at proper point in lesson).

3. Ended by rebellions, Wars of Roses, etc. What was the effect of all this? (Wasted strength and much discontent and bitterness). England must recuperate before any further advance could be made.

Aim. "To-day we are going to see how England's strength was built up."

Presentation.

1. *Peace Established.*—

1. At home. Strong-minded king. Factions united by the king's marriage. Rebellions, but suppressed. Wales happy—a Tudor!
2. In foreign relations. With what countries desirable? (Scotland, Spain, France). Each of these neatly dealt with. The king's daughter married Scotch king. His son Arthur married a Spanish princess. France? Henry threatened war, was voted money by parliament and obtained more money from France by withdrawal. What does this reveal of Henry's character? (Shrewdness; high regard for money).

Review question:—"How was peace secured at home? Abroad?"

2. *Trade Encouraged.*

1. Interior trade—robbers restrained (Pictures of "bills"—Piers Plowman VII: p. 1, or elsewhere).
2. Trade abroad. (1) Free trade with Flanders helped merchants. Law re "wine carried in English bottoms only" helped merchant marine. Furs came from the Baltic and fish from the waters of Iceland. Backed Cabots to extent of £10—a fair contribution for Henry (Picture in Highroads of History or elsewhere).

Review question. What measures did Henry VII take that helped commercial affairs? In what particular field would advance naturally be made? (On the sea!)

3. *Results*:

If these policies were continued for a considerable time (Henry ruled twenty-four years), what would be the results?

1. Country prosperous and wealthy.
2. People contented and happy.

We shall see that there were some results not so desirable as these.

The above points could be summarized in a half-dozen lines, either part by part as review questions answered, or in one effort at the end.

Research Questions.

The solutions of these are to be worked out as seatwork or homework. The consideration of the pupil's answers is to form the work of the next class-period.

1. What attempts were made against Henry's kingship, and how were these handled by Henry?

2. Henry VII was almost an absolute ruler. What factors tended to make him so?

(He united claims of two parties. He was king and received popular support. The nobility was weak and was still further weakened by the Star Chamber and the Statute of Liveries. This power was used to exact "loans," etc., which in turn enabled him to do without calling parliament).

3. (*a*) Did Henry love money for its own sake?
   (*b*) In what ways did Henry make the huge fortune he left behind him?

E. L. D.

Picture Study—A Contrast

S. W. PERRY
Ontario College of Education, Toronto

FOR FOURTH FORM (GRADE VIII)

THE two pictures accompanying this article present a striking contrast in subject and in artistic representation. Both tell the truth with marvellous skill. Each artist adapts his art consistently to the thought he seeks to express, one to illustrate beautifully the real under ideal conditions, the second to picture, with a bald realism, an ugly fact in human history. One sponsors the doctrine of "Art for Art's sake" the other the more human view of "Art for Life's sake". The carefully nurtured, and the pitifully neglected, child of these pictures represent childhood, receiving an education amidst pleasant and cheerful surroundings, or suffering degradation in an environment of discomfort and gloom.

Picture study is the *study of the picture*. So that it will not be necessary to consult books about the life of the artist, the school of painting to which he is said to belong, or the galleries where his pictures may hang—historically interesting as these facts may be. Let us rather *look at* the picture in the light of the artistic training we have received, or in the case of the teacher, in the light of the artistic training his class is supposed to possess. Then set ourselves or our class such an exercise as the following which children in the fourth form or eighth grade should be able to answer.

PICTURE I.

(*a*) Describe the artistic qualities of this picture with reference to—(i) its composition; (ii) its lighting; (iii) its tonal effects; (iv) its unity of subject.

(*b*) State briefly the story the picture tells and the impression it leaves on the mind.

(*c*) Give the picture an appropriate name.

(*a*) Description of artistic qualities:

(*i*) Its composition—

Jules Alexis Muenier Paris

The artist has made a pleasing pattern of light and dark effects within a vertical rectangular space, dividing it in such a way as to bring into prominence to the left of the picture and below the eye level the most interesting object, a young girl at the piano. An old man occupies the centre of the picture in the background, and to the right a large

vase of healthy flowers and foliage, off-setting the hat and cloak on the chair in the lower righthand corner, completes the general arrangement.
(ii) Its lighting—

Bright sunlight comes from above, and from the left, flooding the young musician in a cheerful glow, and mirroring the bars of the window sash on the polished floor beneath the piano. Note the direction of the cast shadows of piano stool and piano leg, and the position of the high lights on the vase.
(iii) Its tonal effect—

The picture abounds in striking contrasts of tones. Note the light dress with the dark ribbon on sleeve and waist, the light hat with the dark band, the dark coat with the light shirt front, the light music book and the dark piano, the light flowers and the dark foliage. Yet the graduations of tone are pleasing with nothing startling or out of tune. All contribute depth and atmosphere and brilliancy to the picture
(iv) Its expressiveness of line—

Vertical lines dominate horizontal lines, thereby giving a cheerful alertness to the picture. Repeated lines of grace are seen in the curves of the forms of child, man, chair, piano leg and vase.
(v) Its unity of subject—

No detail of the picture competes with the chosen centre of interest, the child at the piano. She occupies a prominent position in the foreground. Her dress is arrestingly white. The light is admitted directly upon her. The lines of the picture lead towards her. The master's gaze is humourously directed towards her.
(*b*) Story and impression.

The picture tells a story of a young girl taking a music lesson. She awkwardly fingers the keyboard while the teacher smilingly beats time with the forefinger of his left hand.

The impression left is one of amused interest in the diffident young Miss whose first attempts at playing the piano excite the pleased smile of her teacher. Dainty youth, bright sunshine, fresh flowers combine to produce a cheerful, healthy impression upon the student of this picture.
(*c*) Appropriate title.

"The Young Musician".

"Learning to Play the Piano".

"The First Music Lesson" (Title given by the artist).

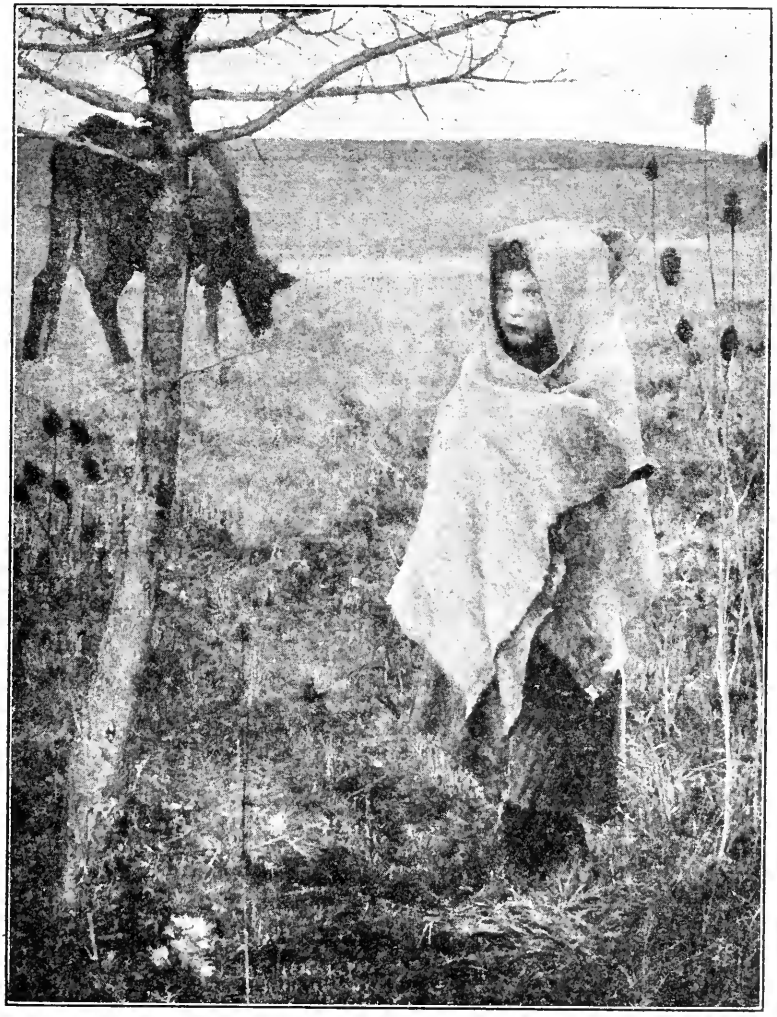
PICTURE II.

(*a*) What story is told in this picture of French peasant life about—(i) the child's occupation; (ii) the child's condition; (iii) the time of year?

(*b*) Show how the artist emphasizes his subject—(i) in the choice of

subordinate details; (ii) in the arrangement of the various parts of his picture; (iii) in the use of ungraceful lines.

(*c*) (i) State briefly the feeling produced in you by a study of this picture. (ii) Give a suitable title for the picture.



Jules Bastien Lepage — In the Glasgow Art Gallery

(*a*) The story told by the picture.

(i) The child is evidently in an open commons minding the cow.

(ii) Her anxious face, coarse covering, and cheerless surroundings indicate joylessness and poverty.

(iii) The bare tree, the dried-up weeds, the scrubby field, and the leaden sky point to the fall of the year.

(*b*) Emphasizing the subject (i) The poor little girl is undoubtedly the object of chief interest in the picture. In harmony with her neglected condition are the lean cow, the thorny tree, the prickly teazle, the coarse pasturage, and the uninteresting hillside and sky.

(ii) The space division of little sky and much earth suggests little brightness and much toil in the life of the little peasant. The monotonous arrangement of girl and weed on one side of the picture, and of thorn-tree and cow on the other, echo the unchanging tedium of the child's occupation.

(iii) There is no grace in the awkward poise of the child, in the lines of her clumsy garments, in the jagged lines of the tree whose trunk cuts the cow into halves, or in the depressing monotony of the horizontal lines of the hill and the sky-line.

(*c*) Impression and title (i) A study of this picture produces a feeling of pity for the pathetic little figure whose childhood is spent in toil under a frowning sky upon a flowerless soil.

(ii) A Poor Little Cow-guardian. A Little Peasant Girl. A Neglected Child. Childhood in Poverty.

An Ice Carnival

W. R. HOWARD, B.A.
John Ross Robertson School, Toronto

FEBRUARY is probably the best of the winter months for ice carnivals. An attempt has here been made to put down in writing a few suggestions that might help someone somewhere in planning such an affair. No attempt has been made to arrange this material in any definite order of importance and whatever ideas are contained here must, of course, be adapted to suit local requirements. The space allowed for this article permits of few details and much must be left unwritten. Books and articles dealing with detailed plans for outdoor winter activities of this kind seem to be scarce. The writer would be glad to hear from any readers who have had experience in such organizing.

Many of the ideas that concern a single-night carnival might conveniently be expanded to something more elaborate in the form of a week-long winter festival embodying a display of all winter activities. Such a festival planned for say, Tuesday, Thursday and Saturday nights and Saturday afternoon could permit of some such arrangement

as the following: Tuesday—curling; Thursday—hockey tournament; Saturday *afternoon*—Sleigh-riding, tobogganing, snow-shoeing; Saturday *night*—Ice carnival. This article, however, is designed more especially for the development of a one-night carnival.

The place where the carnival is to be held may be an enclosed rink, an open air rink, or some nearby river, pond, or lake, etc. Make the best of conditions. Each location has its advantages as well as its disadvantages. An enclosed rink is best in unsettled weather, yet there is a certain amount of artificiality about a carnival held indoors and as a rule the accommodation is limited. Open-air rinks can boast of naturalness and convenience, yet inclement weather is here apt to be the cause of postponements. Ponds, lakes and rivers nearby or even at a distance can afford probably the best location for such an affair. As a rule there are hills from which the whole scene can be viewed. An additional source of enjoyment in this case is in the ride to and from the scene in sleighs, cutters or in motors. This ride can take the form of an informal parade when songs, sleigh bells, horns, lanterns and all other paraphernalia of a sleighing party might be the appropriate accompaniment.

In all cases there should be an area marked off by ropes, boards or by other fencing to be cleared of spectators when special contests are being run. Regular indoor and outdoor rinks have hockey cushions that afford probably the best of conveniences in this matter. A well-balanced programme will likely contain intermission periods or general activity numbers when everybody is given an opportunity to skate or walk around. Community singing might be worked in here appropriately.

Though primarily a school affair and so designed largely for the pupils it is, of course, well to plan special activities for adults alone and the numbers included should be as large as can be conveniently handled.

The carnival as a whole might be made up of four parts: (1) The sleigh-ride; (2) Fancy dress contest; (3) Games, racing and stunts; (4) Community singing. A happy arrangement of all four parts will yield a most enjoyable time.

THE SLEIGH RIDE. In this matter as in all others connected with the carnival much depends upon the locality. In the city the large pleasure vans used on such occasions permit of having one or two responsible for livening up the persons in each van. In the rural districts this is also permitted when the larger sleighs, hay racks, etc., are used. If the weather permits, have ordinary oil lanterns covered with colored paper, chinese lanterns, oil-soaked torches, etc., strung on wires. If a band can be obtained, that is of course, ideal. A mouth organ has

been known to start many a crowd into a few minutes of jollity. Use any and every device to brighten up the ride both in color and sound.

THE FANCY DRESS CONTEST should be made the brightest and gayest factor of the carnival. Encourage everybody to dress in some unusual manner for the occasion, to use an abundance of color and originality whether or not they intend entering the contest. Have as a slogan "*Everybody in costume and on skates.*" Some such arrangement of classes for competition might be made as follows:

Class I. Originality—A. School children.
B. Adults.
Freak, grotesque or unusual costumes.

Class II. Straight Fancy Dress—A. School children.
B. Adults.
Fairy, King, Queen or other character costumes.

Class III. Best Skating—A. School children: boys' doubles and girls' doubles.
B. Adults: men's doubles, ladies' doubles, mixed doubles.

Allow contestants to enter as many classes as possible but have a closing date for entries.

Three judges (two men and one woman) might be sufficient for the judging of costumes. More could be appointed when games and stunts are conducted. The judges, will of course, settle upon a system of marking. An official Announcer and a Secretary or Clerk are indispensable. While it is well to spread the detail work around, yet avoid too many committees. Some necessary committees might be—(1) General executive, (2) Property, (3) Games and Contests, (4) Refreshments. Most of the duties can conveniently be arranged under these headings.

LIGHTS—*Lanterns*, or chinese lanterns if possible. Have fixed to trees, stumps or wires strung across the pond. The interior of a covered rink will not present much difficulty in this matter.

Electric. In this case for artistic effects as well as for satisfactory illumination.

Bonfires. Along the shores of a pond or along hillsides.

Tree-stumps, when nearby and soaked with coal-oil give fair lighting effects.

Oil-burning torches, placed on poles could be used to outline the enclosure, as well as to brighten up any parade.

Lantern Parade. Use torches or lanterns.

Fireworks. Roman candles, sky rockets, etc.

Moonlight. For February full moon is due about the 11th.

MUSIC—For music, the town band, or a mouth-organ, or hurdy-gurdy, or perhaps community singing. Waltz time is best for skating, though not necessary. "My Wild Irish Rose," "'Till we meet Again," "Bubbles," "Pack all your Troubles" are suitable.

GAMES—I. *Mixer*—Follow the Leader. Have four lines, (1) Ladies, (2) Men, (3) Girls, (4) Boys, with well-chosen leader to each or have all in one long line. This is a general activity the success of which depends upon the leaders.

II. *Prisoner's Base*—School children everywhere have played this game.

III. *Relays*—(a) Shuttle. 'Back and forward," 'End to end."
(b) Milk bottle—For parents. To place bottles within barrel hoop not fastened to ice in any way—as in an ordinary potato race.
(c) Circle relays around the rink or pond.

IV. *Burlesque*—Volley-ball game.

V. *Racing*—Mixed doubles, singles, etc.

VI. *Potato racing*—For men with or without skates; run to five yard mark and slide 15 yards; place out potatoes and return, etc.

VII. *Curling*—Using ordinary hand basins weighted with a half-brick.

VIII. *Obstacle race*—For boys under 15 or even for men. If contestants are required to go through barrels, it is much better that the barrels should be free to move about on the ice and not fastened down.

PRIZES—A point system may be adopted and prizes awarded according to results. For any event a win to count three points, next, two points, and next, one point. The cost of separate prizes for each event and grand prizes might be arranged for by an entrance fee to each event or by donations, etc.

REFRESHMENTS—No doubt an affair of this kind would not be complete without attention to this usually important matter. The matter can be left to a committee that will no doubt make provision according to local requirements.

SUGGESTED PROGRAMME:

I. Sleigh-drive—(2½ miles) 7.30 to 8 p.m.

II. General skating and community singing, 8 to 8.30 p.m.

III. Fancy dress contest, 8.30 to 9.30 p.m.

Class I. Originality (a) School children.
" (b) Adults.

Class II. Straight Fancy Dress—(a) School children.
(b) Adults.

Class III. Best Skating—(a) Boys' doubles.
(b) Girls' doubles.
(c) Adults—mixed doubles.

IV. Shuttle relay—Teams of school children.
Boys 14 years and under, 6 skaters to a team, combined ages not to exceed 72 years.

V. Milk Bottle Race—Open to fathers.

VI. Sleigh-drive home.

Current Events

The New Dominion Cabinet

On December 29th the Hon. Wm. Lyon Mackenzie King was sworn in as Prime Minister of Canada. The new cabinet is as follows:

Minister of Finance, Hon. W. S. Fielding, Nova Scotia.

Minister of Railways and Canals, Hon. Wm. C. Kennedy, Ontario.

Minister of Militia and Defense and Minister of Naval Affairs, The Hon. Geo. P. Graham, Ontario.

Minister of Public Works, Hon. H. Bostock, B.C.

Minister of Agriculture, Hon. Wm. Richard Motherwell, Saskatchewan.

Minister of the Interior, Hon. Charles Stewart, Alberta.

Minister of Justice, Hon. Sir Lomer Gouin, Quebec.

Minister of Customs and Excise, Hon. Jacques Bureau, Quebec.

Minister of Marine and Fisheries, Hon. Ernest Lapointe, Quebec.

Minister of Trade and Commerce, Hon. James Alexander Robb, Quebec.

Minister of Labour, Hon. James Murdoch, Ontario.

Minister of Soldiers Re-establishment, and in charge of Department of Health, Hon. H. S. Beland, M.D., Quebec.

Postmaster-General, Hon. Charles Murphy, Ont.

Secretary of State, Hon. A. B. Copp, New Brunswick.

Ministers without Portfolio: Hon. T. A. Low, Ontario; Hon. John E. Sinclair, P.E.I.; Hon. D. D. McKenzie (Solicitor General), Nova Scotia; Hon. Raoul Dandurand, Quebec.

The Prime Minister will act as Secretary of State for External Affairs. It is understood that at the opening of Parliament the Hon. Rodolph Lemieux will be selected as Speaker of the House of Commons. All of the new ministers are members of the House of Commons with the exception of the Hon. Mr. Bostock who is a senator.

The Census

While the returns for the Dominion census of 1921 are not complete, it would appear from those already issued, that the population of Canada is now probably a little under 9,000,000. The figures of the provinces already issued are as follows: Nova Scotia, 524,579; New Brunswick 388,092; Prince Edward Island 88,536; Quebec 2,349,067; Ontario 2,929,054; Manitoba 613,008; Alberta 58,195. The only province to show a decrease since the census of 1911 is Prince Edward Island, whose population then was 93,728. The comparative increase of the other provinces may most easily be seen by noting the effect that the new census will have in the number of representatives each province will be entitled to in the House of Commons when the next redistribution is made. As is well known the unit of representation is determined by dividing the population of Quebec by 65. Quebec always has 65 members. This gives Quebec under the new census one member for every 36,139 population. The other provinces have members in the same ratio. According to the new census Nova Scotia will thus lose one member. New Brunswick's representation will remain the same, Ontario will lose one, Manitoba will gain two, and Alberta will gain four. The census returns for Saskatchewan and British Columbia are not yet published. Notwithstanding its decrease in population, Prince Edward Island, thanks to the B.N.A. Act of 1915 will keep its present representation.

The Irish Free State

On January 7th by a vote of 64 to 57, the Dail Eireann favoured ratifying the treaty by which Ireland is to become the Irish Free State. A few days later Arthur Griffiths was elected president of the Dail and will thus take the lead in appointing the provisional government, which will make arrangements to carry out the treaty. He announced the appointment of the following cabinet of the Dail: Minister of Finance, Michael Collins; Foreign Affairs, George Gavin Duffy; Home Affairs, Eamon J. Duggan; Local Government, William T. Cosgrave; Economic Affairs, Brian O'Higgins; Defense, Richard Mulcahey; Mr. Griffiths declared that he would carry into effect the will of the assembly about the treaty. Accordingly, on January 14th the parliament of Southern Ireland, as established by the Home Rule Act of 1920, met, ratified the treaty, and appointed a provisional government. As practically all the members of the Southern Parliament are Sinn Fein its decisions are likely to be those of the Dail Eireann. Arthur Griffiths will not act as head of the new government of Southern Ireland but will retain his position as head of the Dail Eireann. With two exceptions, however, the other members of the Dail Eireann cabinet are the same as those of the cabinet of Southern Ireland. A general amnesty has been granted by Great

Britain to Irish political offenders confined in prison and British troops to the number of 50,000 are being withdrawn. The government of Ireland is now in the hands of the Irish and Home Rule is an accomplished fact. Many nice questions of Parliamentary procedure will have to be solved. But there seems little doubt now that within a few months, the new government of the Irish Free State will be in operation. Ulster will have one month after the treaty has been adopted by the Imperial Parliament to decide whether it will come within the Irish Free State, or retain its present status.

Supplementary Reading Lists

PROFESSOR G. M. JONES, B.A.
Ontario College of Education

IN Ontario each High School pupil is required to read during the year, in connection with his work in literature, at least four supplementary books. He chooses these from lists prepared by the staff of the school. In some large schools the lists are printed, but as a rule they are simply posted in the class rooms. Each staff is given perfect freedom in the selection of books, except for the regulation that a list of "such suitable works as may be obtained in the school, public, or other library shall be made out "under four heads". Under such conditions there is, of course, great variety in the books chosen.

About a year ago, lists were secured from four High Schools and eighteen Collegiate Institutes. The smallest of the High Schools has five teachers, the largest of the Collegiate Institutes has over forty. Some lists were comparatively short, some were long. All were more or less limited by the facilities of the High School and Public libraries. The twenty-two lists for the Lower School were combined by Miss Helen Day, B.A., a member of last year's English and History Seminar Class in the Ontario College of Education, and now a teacher in Meaford High School. Altogether the names of over 1,300 different books appeared, but only 420, or about 33%, appeared on more than one list. In the following table will be found the names of all books listed by more than one of the schools.

LOWER SCHOOL—(Grades IX and X)

GENERAL PROSE

Author	*Book*	*Times listed*
Addison	DeCoverley Papers	3
Ainsworth	The Tower of London	2
Alcott	Little Women	10
	Little Men	3
Aldrich	Story of a Bad Boy	3
Andrews	Arabian Nights	4
Austen	Mansfield Park	2
	Pride and Prejudice	2

Author	*Book*	*Times listed*
Ballantyne	Ungava	2
	Coral Island	2
	The Young Fur Traders	3
Barrie	The Little Minister	5
	Peter and Wendy	2
Blackmore	Lorna Doone	14
Bronte	Jane Eyre	3
Brown	Rab and His Friends	4
Boyesen	Boyhood in Norway	2
Bullfinch	The Age of Fable	4
Bunyan	Pilgrim's Progress	7
Canton	Child's Book of Saints	2
Carroll	Alice in Wonderland	6
Catherwood	Romance of Dollard	2
Connor	Black Rock	7
	Glengarry School Days	8
	The Man from Glengarry	5
	Sky Pilot	6
	Patrol of The Sun Dance Trail	3
Cooney	Kinsmen	2
Cooper	The Deerslayer	7
	The Spy	3
	The Last of The Mohicans	13
	The Prairie	2
	The Pioneers	3
	The Pathfinder	6
Crockett	Cleg Kelly	2
Cummins	The Lamplighter	3
Dana	Two Years Before the Mast	8
Davis	A Victor of Salamis	3
	A Friend of Caesar	3
Defoe	Robinson Crusoe	12
Dickens	Any Novel	4
	Oliver Twist	16
	David Copperfield	12
	Old Curiosity Shop	10
	Nicholas Nickleby	9
	Christmas Carol	7
	Tale of Two Cities	5
	Cricket on the Hearth	4
	Great Expectations	3
	Pickwick Papers	3
	Barnaby Rudge	2
	Christmas Stories	2
	The Christmas Books	2
	Little Dorritt	3
Dodge	Hans Brinker	3

Author	*Book*	*Times listed*
Doyle	The White Company	8
	Sir Nigel	3
	Micah Clarke	2
Dumas	The Three Musketeers	2
Duncan	Dr. Luke of Labrador	6
	Adventures of Billy Topsail	3
Edgar	Cressy and Poictiers	2
Elliot	Mill on the Floss	12
	Silas Marner	9
	Adam Bede	4
	Romola	2
Farrar	Eric	3
Fouqué	Undine	2
Goldsmith	The Vicar of Wakefield	7
Gaskell	Cranford	10
Graham	The Golden Age	2
Grayson	Adventures in Contentment	2
	Adventures in Friendship	2
Grimm	Fairy Tales	4
Hankey	A Student in Arms	2
Hawthorne	Tanglewood Tales	8
	Twice-Told Tales	7
	House of Seven Gables	3
	The Wonder Book	6
	The Great Stone Face	2
Hay	The First Hundred Thousand	9
Henty	With Wolfe in Canada	10
	Under Drake's Flag	4
	With Clive in India	3
	The Bravest of the Brave	3
	The Lion of St. Mark	3
	In the Reign of Terror	2
	The Lion of the North	2
	Under Wellington's Command	2
Hewlett	Richard Yea and Nay	2
	The Queen's Quair	2
Huard	My Home on the Field of Honour	5
	My Home in the Field of Mercy	2
Hughes	Tom Brown's Schooldays	14
	Tom Brown at Rugby	2
	Tom Brown at Oxford	4
Hugo	Les Miserables	2
Irving	Sketch Book	3
	Legend of Sleepy Hollow	3

Author	*Book*	*Times listed*
Irving	Tales from the Alhambra	3
	Tales of a Traveller	2
	Rip Van Winkle	2
Keith	The Silver Maple	4
	Duncan Polite	3
Kingsley	Westward Ho!	9
	Waterbabies	8
	Hereward the Wake	6
	Hypatia	3
Kipling	Puck O' Pook's Hill	11
	Captains Courageous	9
	Jungle Book	7
	Kim	4
	Stalky and Co	3
	Rewards and Fairies	2
Kirby	The Golden Dog	8
Knowles	St. Cuthberts	2
Larcom	A New England Girlhood	3
Lascelles	Thirty-five Years in the New Forest	2
Laut	Lords of the North	7
	Heralds of the Empire	6
Lover	Handy Andy	3
	Charles O'Malley	3
London	The Call of the Wild	4
Lytton	Harold	6
	Last of the Barons	5
	Last Days of Pompeii	6
Mabie	Essays Every Child Should Know	3
	Legends " " "	2
	Myths " " "	2
	Operas " " "	2
	Pictures " " "	2
Madden	Emmy Lou	2
Mark Twain	Tom Sawyer	3
	The Prince and the Pauper	2
McArthur	In Pastures Green	2
McClung	Three Times and Out	2
Montgomery	Anne of Green Gables	7
	Anne of Avonlea	2
	Anne of the Island	2
	Chronicles of the Island	2
Mulock	John Halifax Gentleman	10
Munroe	At War with Pontiac	2
Ollivant	Bob, Son of Battle	8
Oxley	With Fife and Drum at Louisburg	5
Porter	Scottish Chiefs	6
Parker	Seats of the Mighty	14
	Pierre and his People	4
	The Right of Way	4
	When Valmond Came to Pontiac	3
	Battle of the Strong	2
Poe	Prose Tales	2
	The Gold Bug	2
Pyle	Robin Hood	3
Quiller-Couch	Fort Amity	2
Reade	The Cloister and the Hearth	2
Richardson	Wacousta	7
Roberts	Heart of the Ancient Wood	5
	Forge in the Forest	5
	A Sister to Evangeline	5
Ruskin	King of the Golden River	4
Saunders	Beautiful Joe	3
Scott	Any Novel	3
	Talisman	16
	Kenilworth	12
	Ivanhoe	11
	Quentin Durward	10
	Waverley	6
	Tales of a Grandfather	5
	Rob Roy	5
	Heart of Midlothian	3
	Redgauntlet	2
	Bride of Lammermoor	3
	Old Mortality	2
	The Antiquary	2
	Fortunes of Nigel	2
	Count Robert of Paris	2
Sewell	Black Beauty	2
Seton-Thompson	Two Little Savages	3
	Rolfe in the Woods	2
Stevenson	Treasure Island	18
	Kidnapped	13
	Black Arrow	5
	Master of Ballantrae	4
Stoddard	With the Black Prince	2
Stowe	Uncle Tom's Cabin	4
Strang	A Mariner of England	3
Stratton-Porter	Freckles	2
Swift	Gulliver's Travels	6
Thackeray	Henry Esmond	3
	The Virginians	2

Author	*Book*	*Times listed*
Thackeray	Vanity Fair	2
Van Dyke	The Blue Flower	4
	The Story of the Other Wise Man	3
	Little Rivers	3
	Fisherman's Luck	2
Wallace	Ungava Bob	2
	Ben Hur	3
Wiggins	Rebecca of Sunnybrook Farm	2
White	The Magic Forest	3
Wyss	The Swiss Family Robinson	4
Yonge	The Prince and the Page	2

(Lists for Poetry and Drama, History and Biography, Science and Nature Study, and Travel and Exploration, will appear next month).

An Example in Geometrical Analysis

PROFESSOR J. T. CRAWFORD
Ontario College of Education

WHEN an original exercise in geometry is to be solved, the most powerful weapon at the command of the pupil is analysis. It often happens that an exercise can be analysed in a variety of ways and it is interesting to examine if each of these methods of analysis will lead to a solution of the problem. Take the following as an illustration.

In the triangle ABC (fig. 1), the side AC is twice the side AB, show that the angle B is greater than twice the angle C.

We are here required to prove an inequality—that one angle is greater than twice another angle. Now there is no theorem that does this directly, so we must vary the conclusion required to make it conform to some theorem already proven. This may be done in a number of ways.

(1) Use the fact that the exterior vertical angle of an isosceles triangle is double either base angle. Bisect AC (fig. 1) at D and draw DE perpendicular to AC meeting BC at E. Now angle AEB is twice angle C. If we can now prove angle B greater than

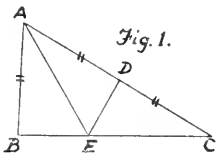


Fig. 1.

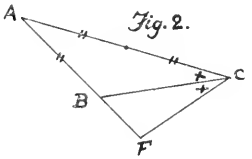


Fig. 2.

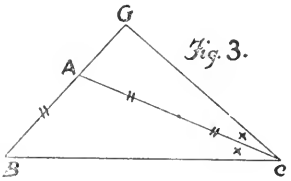


Fig. 3.

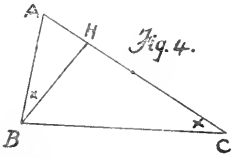


Fig. 4.

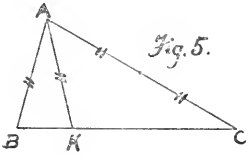


Fig. 5.

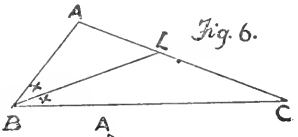


Fig. 6.

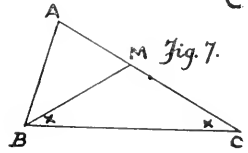


Fig. 7.

angle AEB, or AE greater than AB, the conclusion required will follow. Can this be done?

(2) If we double the angle C (fig. 2) by making angle BCF equal to angle C, we must prove that angle BFC is greater than angle C, or BC greater than BF. Can this be done?

(3) If we double the angle C (fig. 3) by making angle ACG equal to angle C, we must now prove angle B greater than angle BCG, or CG greater than BG. Can this be done?

(4) From angle B (fig. 4) cut off angle ABH equal to angle C. Can we now prove that angle HBC is greater than angle C?

(5) If we make such a change that angle B (fig. 5) becomes an exterior angle of a triangle in which angle C is an interior angle, we could then express the angle B in terms of angle C. With the centre A and radius AB describe a circle cutting BC at K. We must now prove angle KAC greater than angle C. Can this be done?

(6) Draw BL (fig. 6) to bisect angle B. Can we now prove that angle LBC is greater than angle C?

(7) Make angle CBM (fig. 7) equal to angle C. Can we now prove angle ABM greater than angle C? What is the conclusion when angle ABC is a right angle; when it is an obtuse angle?

(8) Can we prove it trigonometrically by showing that sin B is greater than sin $2C$?

These are not all the possible methods of attack, but they are sufficient to show that the pupil who is not successful with the first method he has tried should not therefore assume that he cannot solve the exercise. The reader is invited to send in solutions of this exercise by the methods here indicated or by other methods. Solutions will be given in a future issue of THE SCHOOL.

From the Board's Point of View

Consolidated Schools

The article on Consolidated Schools in the December issue of THE SCHOOL brings the following interesting note from Mr. J. R. Pickering of New Liskeard.

"Just for the sake of historical accuracy let me change the wording of one sentence in your December issue: The first consolidated school east of Toronto was officially opened at Tamworth, Ontario, by Dr. Pyne, Minister of Education in June, 1912. It had been in operation a few months before that. The trustees were Joseph Huffman, A. B. Carscallen, A. E. Milligan, Chas. Shields, Jerry Donovan and Henry Richardson and the first principal was J. R. Pickering who had charge

of the school during the first four years of its existence. The building is a four-room brick, a picture of which was exhibited by Dr. S. B. McCready in connection with lantern slide lectures on rural school life in Ontario and a photograph of the school with an article written by the Principal was made the leading feature article of an issue of Farm and Dairy (published at Peterboro) during the spring of 1914. A picture of the school also appears in *The Jubilee of Christ Church*, a church history written by Rev. Rural Dean Jones and published by the Kingston *Whig* in 1915. The school is still doing excellent work in serving the needs of the sections which consolidated."

A Children's Census

ALICE WILLSON

THE Adolescent School Attendance Act and the new School Attendance Act are now in force, the new Attendance Officers are at work and everyone who is interested in Ontario schools is watching for results. The official reports for the year are, of course, not yet ready but some figures about school attendance are available and they are very interesting. They shew, for one thing, a great increase in the attendance at the secondary schools, due, no doubt, partly, to the unemployment situation but chiefly to the new law.

However, even when the statistics of the Department of Education are published, it will be dangerous to make emphatic statements as to whether the new laws and new officers have accomplished what they were intended to accomplish or not. It will be impossible to say, with any great degree of accuracy, just what proportion of children, in any given locality, are complying with the law and what numbers are evading it.

By a fortunate coincidence it will be possible, very soon, to get this proportion for the cities and for the province as a whole because the Dominion Census by ages is due to appear in a few months. But this happens only once in ten years and until it appears, all statisticians can do is to calculate proportions from the census of 1911. The old difficulty is still with us. That difficulty was and is, that our school records take cognizance only of those who present themselves at the schools. The object of the new law and the new staff of Attendance Officers is to find out those who do not present themselves.

There seems to be a rapidly growing conviction that the next step in educational reform is the organization of an annual census of children.

This means that in every public school district, in city and country, there would be a list of the children of school age made out every year and kept with the same meticulous care as is given to the voters' lists. These school lists would be made early in the year, the names of those excused from school attendance (i.e., those attending private schools, employed under home permits, physically disabled, etc.) could be checked off. The remaining names would then be handed to the principal of each school on the first of September and would be an alphabetical list of the pupils who ought to present themselves at his school. Any who did not present themselves would then become the special responsibility of the Attendance Officer. Recent legislation already provides for a local census. A 1921 amendment to the School Attendance Act gives a Board of Education or Board of School Trustees authority to make a complete census of all children resident in the municipality or school section who are not of the age of 21 years. The advocates of the plan claim that, if fairly accurate voters' lists can be ready for every first of January, there is no reason why fairly accurate school lists cannot be ready for every first of September, provided that the community really believes it to be at least as important that the children be taught to read as that the adults be allowed to vote.

The question is, whether the advantages of such a plan would be sufficient to justify the expense and labour involved. The comparison with the voters' lists is, of course, not quite fair. Voting would be impossible without voters' lists. Going to school is quite possible without school lists. The voters' list benefits everybody; the school list would benefit, directly, only a minority—and an unappreciatiave minority at that. In spite, however, of the comparatively small number of delinquents, the plan has so many advantages that it is well worth considering.

It is not the School Attendance Officers alone who would find their work systematized by a census of children. The Boards of Education would have their problems clearly placed before them. The Medical Officers of Health, the Public Health Nurses, the Child Welfare workers, the authorities concerned with mental Defectives, the municipally supported hospitals would all welcome it. The Mothers' Allowance administrators, the Children's Aid people would all make use of such lists. In fact, all social service workers, including Santa Claus and the Churches and their Sunday Schools require such information and in certain localities spend a great deal of time in trying to get it. If the work were done officially by municipal or educational authorities it would be merely another and very effective form of co-operation for community service.

Book Reviews

The Romance of Building, a Short Outline of Architecture in England, by Allen S. Walker. 240 pages. The first five chapters of this book give a very brief outline of Egyptian, Greek and Roman styles of architecture, and the influence that each has had on the development of English architecture. The remaining chapters give a fairly full treatment of the history of building in England. With the exception of Chapter XXIV, "Wren's Palaces and Private Houses"—the author however, deals exclusively with ecclesiastical architecture, cathedrals and churches being chosen, almost invariably, as illustrations of the different architectural styles developed in England. That there is a genuine romance in building is made clear in the author's treatment of his subject. One feels in full sympathy with his statement—"History and Architecture go hand in hand, and Architecture is as live and human as History itself." The book should serve as an excellent supplement for a general History of England. There are sixteen full page and twenty-three smaller illustrations. An appendix gives a very detailed summary of the subject-matter, and a bibliography of architecture.

F.A.R.

The Beggar's Vision, by Brookes More. Cloth, 91 pages, The Cornhill Publishing Co., Boston, Mass. Price $2.00. The seven poems in this book, profusely illustrated by Tracy Porter Rudd, represent the idealistic work of a new poet, whose verbal imagery and subtle music blend with the allegorical substance of his distinctive creations. The poetry has a serious ideal and a high religious purpose. The letter-press and binding of the book are in keeping with the ideas and style of this beautiful work, making it in all respects a worthy gift. A preface by William S. Braithwaite contains a fine appreciation of the poetry of Brookes More.

F.J.V.

The Outline of History by H. G. Wells. 1171 pages. Price, $5.00. The Macmillan Co., Toronto. This history has already been widely and favourably reviewed; it is the purpose of this note to draw attention to the educational edition which contains in one volume as many pages as the two-volume edition and is much more correct since the author has accepted the suggestions of some thousands of critics who saw his first edition. The publishers are to be congratulated on their achievement in putting into one volume at such a popular price a history which is, perhaps, the most stimulating that has yet been produced.

W. J. D.

An Introduction to the Theory of Relativity, by Lyndon Bolton, M.A. Methuen & Co., London, Eng., 5 shillings. Of the half dozen elementary books on this subject which we have thus far read, this is the best. Mr. Bolton has an interesting style, and the reader will know exactly what Einstein's great theory is about. The mathematics used are exceedingly simple, not extending beyond the requirements for junior matriculation. There are thirty-eight diagrams in the book.

G.E.P.

Philosophy and The New Physics—An Essay on the Relativity Theory and the Theory of Quanta, by Louis Rougier, Professeur Agrégé de Philosophie, D. és L., translated by Morton Masius, M.A., Ph.D., P. Blakiston's Son & Co., Philadelphia. $1.75 net. As the title indicates this book presents the recent advances in physics in a manner of interest to both the philosopher and the physicist. "Abandoning the ether we are led to an entirely different theory: that of the materialization of energy. It appears as endowed with inertia, with weight and structure and manifests itself in two forms: one is called, by virtue of long prescription, matter; the other, radiation." Any teacher interested in relativity and the problems associated with it, should add this book to his library. G. A. Cl.

Human Psychology, by Howard C. Warren, Houghton, Mifflin Co. Boston, 1919, pp. 460, is a first-class text. The key to it is found in the Appendix where Professor Warren discusses the mind-body relation. Here the author states that the *double-aspect* hypothesis has been adopted by him. "The double-aspect interpretation differs from both interactionism and parallelism in assuming that conscious and neural phenomena constitute *one single series* of events, and that their different appearance is due merely to different ways of observing them. When they "happen to me" they appear as conscious experiences; when I observe them indirectly, through perceiving the behaviour of other beings by means of my senses, they appear in the other form of motion, chemical change, and the like." Warren is thus a behaviourist of a somewhat conservative school. Psychology to him "is the scientific description and explanation of mental life, which denotes a type of process by which the environment affects the organic being and the organic being in turn affects the environment." Consequently the text deals very fully with the characteristics of organism and the structure and functions of the nervous system. Behaviour is studied in three main types—reflex, instructive and intelligent behaviour. A full discussion of attitudes, character, mental organization and control,

and the higher types of mental states (such as thought and language) rounds out the work. The volume is profusely illustrated. No text since James's *Principles* will command as high a regard as this one, which is praise indeed. P.S.

Notes and News

That the people of Canada may be kept fully informed on its component parts, the Natural Resources Intelligence Branch of the Department of the Interior has published a series of pamphlets on the provinces and portions of provinces and territories of Canada. Those at present available are "Nova Scotia," "New Brunswick," "New Manitoba," "Saskatchewan," "Athabaska to the Bay," "Lower Athabaska and Slave River District," "The Peace River District," and "Central British Columbia." Others are in course of preparation. This branch has also published a number of interesting maps showing the natural resources of Canada. Copies of any of these pamphlets or maps may be had by teachers, free on request to the Natural Resources Intelligence Branch, Department of the Interior, Ottawa. School teachers have found them of material help in their work, as also a valuable addition to the school library. The cost of production of these publications precludes the possibility of supplying copies to school children.

Manitoba

THE annual meeting of the Manitoba Teachers' Federation was held on Wednesday, December 28th, 1921, in the Board of Trade Building, Winnipeg. There were about 70 accredited delegates from different parts of the province and every phase of school work was represented. In addition to these regularly appointed representatives were delegates from the various Normal Schools and many visiting teachers who were interested in the proceedings.

The meeting was a very successful one and showed that the M.T.F. was functioning in an effective manner. In his presidential address, Mr. H. W. Huntly emphasized the service rendered by the Federation in obtaining peaceful settlement of disputes between school boards and

teachers. Of the ten cases which had been brought to their attention, all but two were disposed of without appeal to the Board of Reference. He reviewed the Transcona case in which Principal Baxter was retained in his position and the St. Boniface case in which W. D. Bayley, M.L.A., was restored to his position as principal of King George V school.

President Huntly also referred to the efforts being made to raise the standard of efficiency of teachers and regretted that some teachers disapproved of this action. Later on in the day a resolution was passed asking for the establishment of a chair of pedagogy in the University of Manitoba. During his three years of office Mr. Huntly has placed the efficiency and status of the teacher as the first plank of his platform.

The secretary's report, presented by G. J. Reeve, showed that the membership in the Federation had increased approximately 35 per cent. over the preceding year. Some 1,500 teachers were registered as fully paid-up members. Mr. Reeve's report was a very thorough one.

The treasurer, Mr. A. B. Gillespie, presented a report showing a surplus of nearly $4,000, and urged that $3,000 be invested in Victory Bonds. The new executive is empowered to take action in the matter.

In presenting the report of the publicity committee, E. K. Marshall, spoke warmly of the friendly attitude of the local press. Mr. C. W. Laidlaw presented the report of the legislative committee.

The convention recognized the need for a travelling organizer and an effort will be made to have someone appointed to visit the different Inspectorates. It was reported that Miss E. S. Colwell had been appointed to the Council of the University of Manitoba.

An important change was made in the constitution whereby (1) the Federation Year ends on June 30th; (2) the fee will be $2 up to that date and thereafter $5 per year; (3) the Executive is elected in such a manner that the main officers are chosen by the delegates as a whole and the rest of the members by group of delegates giving increased representation for the country districts.

A resolution was passed approving of the steps being taken by the executive to improve the status of the profession. In all, 42 resolutions were forwarded from the Locals for consideration at this meeting.

The election of officers resulted in the following: President—E. K. Marshall, Portage la Prairie; Vice-President—G. J. Elliott, West

Kildonan; Secretary—G. J. Reeve, Winnipeg; Treasurer—A. B. Gillespie, St. Boniface; Executive—C. W. Laidlaw, Miss E. S. Colwell, and A. C. Campbell, of Winnipeg; G. H. Robertson, Neepawa; B. A. Tingley, Brandon; H. L. Albright, Manitou; E. Robinson, Stonewall; L. W. Merrill, Roblin; and H. W. Huntly, Immediate Past President.

The new executive was authorized to contribute at the rate of one dollar per member to the Canadian Teachers' Federation when it was required.

The Convention showed that the M.T.F. was in a vigorous state and that much can be accomplished for the teachers and for the cause of education in this province with continued sane, vigorous leadership.

Nova Scotia

W. A. Creelman, Principal of Sydney Academy, has been appointed a member of the Provincial Advisory Board.

E. W. Robinson, Wolfville, N.S., has retired from an Inspectorship to assume parliamentary duties at Ottawa. As Inspector, Mr. Robinson was eminently successful. We hope his political career will be equally so.

The Nova Scotia Teachers' Union is becoming increasingly active. It is becoming a union in fact as well as in name. Meetings were held in Truro at Thanksgiving and again during the Christmas vacation.

The Rural Science Department, Truro, has in operation ten magazine circuits. Each teacher on each circuit receives four or five helpful magazines every week. Travelling Libraries are also doing good work among rural schools.

The Natural Resources Intelligence Branch of the Department of the Interior has published a map showing the leading natural resources of each province. In Nova Scotia mixed farming, mining and fishing predominate; in Prince Edward Island fur-farming and agriculture. New Brunswick has large areas of timber, while mixed farming and fruit growing are outstanding interests. In Quebec may be found a wealth of timber for pulp-wood, also minerals such as asbestos, graphite and molybdenite, while in Ontario somewhat similar opportunities exist. In the prairie Provinces the prospective settler or investor may obtain adequate returns on capital and labour in either grain growing, mixed farming or ranching, while in British Columbia timber-

ing, fishing, fruit-growing and mining are among the leading industries. In addition to information on natural resources, the map shows all railways and trade routes. An interesting and valuable feature is a series of comparative diagrams illustrating the production and exports of the various provinces. A copy of the map may be obtained free of charge upon application to the Natural Resources Intelligence Branch, Department of the Interior, Ottawa.

Quebec

The Closing Exercises of the First Short Course for elementary diplomas, were held at Macdonald College on Tuesday, December 20th. Sir Arthur Currie, principal of McGill University, presided, and addressed the students, recalling the fact that twenty-seven years ago this month he received a teaching diploma himself and actually taught six years. Dr. Parmelee, Deputy Minister of the Department of Public Instruction, and Inspector Parker, also addressed the students. Twenty-five students enrolled at the beginning of the term, and twenty-two received elementary diplomas. Three other students also received permission to teach in the meantime until they could secure from a school inspector a certificate of successful teaching. Whenever such certificate of successful teaching is presented to the Department of Public Instruction, these three students will receive their first class elementary diplomas. In addition to these twenty-two elementary diplomas, three students have received Junior Certificates of the Tonic Sol-fa College, and twenty-three received the Strathcona Certificate, Grade "C". The prize winners had won their prizes by a very narrow margin, and those at the top of the list were urged to complete their school-leaving certificate and return to college to obtain an Intermediate Diploma.

The Quebec Presbytery has just opened up a new home for children, 585 St. John Street, Quebec. This home gives board and lodging to young people in the outlying districts, so that they can obtain the benefit of higher education in Quebec, which would be impossible for them in the vicinities of their homes. There is great need for these children's homes for children in isolated communities. The present premises will accommodate between forty and fifty children, and already it is nearly filled. Some of these elementary students have received positions in Clarendon, Shawville, Fassett, Sutton, Quebec, etc.

The School

"Recti cultus pectora roborant"

Editorial Notes

The Rural School Problem

During the first forty years in the history of elementary school legislation in Ontario there was no division recognized between rural and urban schools. In the eye of the law every school was a rural school. By the time Ryerson arrived on the scene, however, centres of population were already large enough and numerous enough to make some distinction necessary. From the point of view of school organization the towns and cities had obvious opportunities and should be encouraged to take advantage of them. They might have consolidation and graded schools, specialized teachers, and, later, specialized types of schools. In 1847 legislation for the first time recognized and encouraged the urban school. Since then, its advance has been rapid. To a certain extent the rural school shared in this improvement. More and better teachers have been available, more and better buildings and accommodation have been provided until now the extent of capital investment in the individual rural school stands as an argument against the economy of consolidation. The present equipment is in many cases too good to scrap.

But the disadvantages of the country school were obvious. Homes were far apart and the taxable value of a one-school area was bound to be less in the country than in the town. In the towns educational advantages multiplied and the contrast became noticeable. The rural school problem was with us.

The problem is not a local one. From many of the states to the South of us come reports of similar conditions. A committee, which, under the leadership of Professor C. H. Judd recently completed a survey of rural school conditions in New York State suggests as remedies a larger unit of taxation, redistribution of state aid, optional consolidtion, and improved teaching personnel.

It must not be forgotten that the rural school has, in some respects, decided advantages over the urban school. The pupils environment is incomparably wider and richer. His first hand experiences touch life at a thousand points unknown to the town child. In some respects,

too, the very limitations of the small school may yield indirect benefits. The pupil is thrown more on his own resources and yet can have at intervals a personal supervision, direction and encouragement that the teacher in an urban school, having less personal acquaintance with the home life of the pupil, can hardly hope to give to the same extent. The teacher with few pupils can know to a much greater extent the individual capacities, needs and interests of each pupil.

Ontario has for years been alive to the rural school problem, witness the courses in agriculture in Public and High Schools, the summer schools for teachers and inspectors, the conferences of inspectors, legislation for optional consolidation, larger grants to rural schools, and flourishing trustees associations. The appointment of Dr. Karr as Director of Rural School Organization will no doubt tend to coördinate and render even more efficient the agencies already in operation. The problem deserves, and it will now receive, the whole time of an educational expert.

Co-operation

An article by Dr. Sandiford in the January issue of THE SCHOOL asked the co-operation of Canadian teachers in an experiment to establish Canadian standards or scales in spelling. For the greater convenience of teachers the lists of words from the Ayres' Scale were reprinted in full. Doubtless thousands of teachers read the article with interest, and tested their classes with these scales. But they did not send in their returns as requested. In fact, the returns received have been so few as to afford no basis at all for any Canadian standard. Not one in a thousand of the readers of THE SCHOOL has taken the time, the very little time, required to furnish the information on which a very interesting and useful result could have been based. It is probably not because the teacher was not interested or was not convinced that it was worth while, but merely that each teacher under-estimated the importance of his or her share in this piece of educational research. It is not too late to send in results. While the returns from ten or a dozen pupils in one class may have little meaning, thousands of such returns may afford a very broad basis indeed for generalization. If even every third subscriber to THE SCHOOL responded to the invitation, there would be the thousands of returns desired. It is unnecessary to state that in the published results no names of schools or centres will be referred to. It is in no sense a competition. It is not yet too late to send in returns. Will the teachers respond? Will not the inspectors co-operate?

The Reunion

The Reunion of the graduates of the Ontario College of Education and of the Faculty of Education of the University of Toronto will be held in Hart House on Wednes-

day, April 19th. The announcement is made thus early in order that all may make arrangements to attend. There promises to be a large number of representatives present from all the years, and the reunion forms the best means of renewing old friendships. The features of former years, which have proved so attractive in the past, will be continued. All the graduates are invited. There will be fuller announcements in the next issue of THE SCHOOL.

A Business Note

When you renew your subscription to "THE SCHOOL" it is less expensive to buy a postal note than to register a letter enclosing cash. Cheques or postal notes should be made payable to "THE SCHOOL", Toronto. In giving notice of change of address please give the old address as well as the new. In all correspondence it is safer to give the Christian name rather than the initials only. Among so many thousands of names there are almost sure to be some whose surnames and initials are the same.

A Recent Appointment

DR. W. J. KARR

Dr. W. J. Karr, English master in the Ottawa Normal School, has been appointed by the Minister of Education as Director of Rural School Organization in the Province of Ontario. Dr. Karr has an unusually thorough knowledge of educational conditions in Ontario. His earliest education was obtained in a rural school in his native county of Lambton. He has attended as a student the Ontario Public School, High School, Model School, Normal School and Normal College. He is a graduate of Queen's University both in Arts and in Education having taken both the B.Paed. and D.Paed. degrees in education. As a teacher also his experience has been extensive and varied. After teaching three years in a rural school he served as assistant and a principal in an urban public school and as principal of a Model School. For a year he was an

assistant in the English-French Model School at Ottawa. This was followed by his appointment as English master in the North Bay Normal School in 1909, from which he was transferred two years later to a similar position in the Ottawa Normal School.

For many years Dr. Karr has taken an active part in the work of the training section of the O.E.A. and in many other phases of educational work in Ontario. Keen sympathies and accurate scholarship combined with energy and patience in reaching conclusions have given Dr. Karr an unusual capacity for getting at the facts of a case and weighing its possibilities, a capacity which will have full scope in his new position. Dr. Karr is the author of two books. "The Training of Teachers in Ontario", and "Stories and Outlines for Composition".

An Educational Tour

(Concluded from February issue)

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto.

Early on Saturday morning the tourists reached North Bay and were divided among the principal hotels for breakfast. They had now reached the border line—no one in North Bay will state with positive assurance whether the town is in Northern or in Southern Ontario. First, one noticed that North Bay is a railroad centre, the southern terminus of the T. & N.O. and an important station on three other lines, the Canadian Pacific Railway, the old Grand Trunk, and the former Canadian Northern, the two latter being now part of the Canadian National Railways. Next, it was to be observed that North Bay is situated on an immense body of water, Lake Nipissing. In appearance the town would appear to be more of the Southern Ontario type than of the Northern and in size it seems to be rapidly approaching the status of a city.

The instructions received from the management committee were to the effect that all were to assemble at the wharf at nine o'clock and to embark on the *Northern Belle* for a trip on Lake Nipissing. As usual, the teachers were punctual. The weather looked just a little threatening. Here it might be said that the party had not once encountered rain throughout the whole trip. Rain had fallen, in one case, just about twelve hours before the train arrived and rain was reported in places recently left behind but not until Saturday morning did the

arrival of rain synchronize with the presence of the teachers, and then only for a few minutes. When it is considered that the trip would obviously be a failure unless the weather were fine, the importance of this good fortune can scarcely be over-emphasized.

Some wondered why the whole day was to be spent on the boat. There was a good reason. The scheme nearest to the hearts of the people of North Bay, the project necessary to the further development of the town and, indeed, of the whole district, is what is known as the "French River Improvement". Of this important proposition the teachers of Ontario should have exact information and, as every teacher knows, the only method by which one can really learn is to go and see.

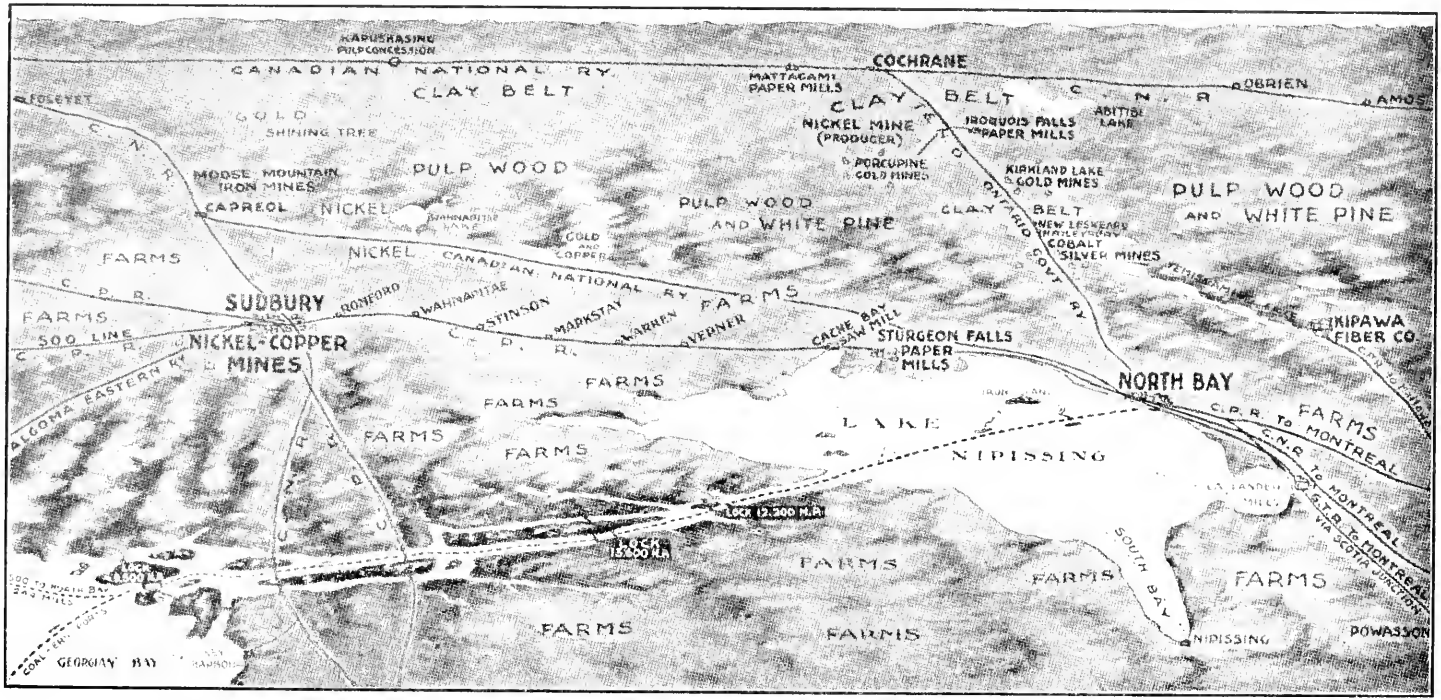
When it was known that the party would spend a day in this town, the Executive Committee of the Board of Trade chartered the boat and gave the arrangements for the day's entertainment into the hands of Principal A. C. Casselman of the Normal School, Principal J. H. Lowery of the Public Schools, and other educationists who were spending their vacation at home. This plan assured to the visitors a warm reception and an excellent day. A bond there is, stronger than most people imagine, uniting in common aims and interests the members of the teaching profession—and this bond was very much in evidence that day. Principal Casselman, big, jovial, aggressive, took charge of the party and, from the departure of the boat a little after nine o'clock until its return at eight o'clock he "kept things going". His manner radiated sunshine and cordiality so that there was not a dull moment throughout the day.

This was another trip through another wonderland. Wednesday had been a land trip through some of nature's most beautiful scenery; Saturday was a water trip through scenes just as beautiful and in a different setting. Across Lake Nipissing and up the French River, past islands, fishing grounds, summer cottages, large and small—it was all entrancing.

At noon sandwiches and coffee were provided and in the course of the afternoon Mr. J. A. McKerrow, shipping manager of the Abitibi Pulp and Paper Company, bought and distributed to each person on board a chocolate bar. When it is remembered that, of hosts and guests, there were 225 aboard, the magnitude of his undertaking is realized.

About two o'clock the boat stopped near the Chaudière Falls and Principal Casselman led the way to the power dam. It was a long, a tortuous, and a rocky trip, and not everybody managed to go the whole distance, but the scenery was everywhere most magnificent.

French River Improvement involves simply making the French River navigable from Lake Nipissing to Georgian Bay. There are three obstacles at present, in the total length of 49 miles, the Big Chaudière,



French River Improvement and Power Scheme, Northern Associated Boards of Trade

Five Mile Rapids, and the Dalles. At each of these points a lock will be necessary and at these locks electrical energy to the amount of 35,394 horse-power can be developed. The boon this power would be to the mining and manufacturing plants in the Sudbury district a glance at the map will indicate. From the town of North Bay to the mouth of the French River, at Georgian Bay, is a distance of 83 miles and could be covered by steamer, if the necessary canal work were done, in about nine hours. As the advocates of the scheme point out, this new route would serve as an outlet for the products of Northern Ontario (nickel, silver, gold, iron, farm products, lumber, timber, pulp and paper), as an inlet for coal and the varied requirements of this part of the Province, and as a source of power for manufacturing. To obtain facilities for water transportation instead of, and in competition with, rail transportation is, of course, to reduce greatly the freight costs and, therefore, the ultimate cost of all products.

Though teachers are not, so people say, expected to work on Saturday, these educationists worked that day and learned the geography of this part of the country and the necessity for the "French River Improvement" thoroughly. At one point on the return trip a stop was made to take on several sportsmen who had spent the day fishing. They had pike to give away, pike from two to three feet long, and these Principal Casselman distributed to the men of the party "in inverse ratio to the size of their families". Those same pike, it may be said here, provided several delicious Sunday dinners in Toronto and other places the next day!

Tired, indeed, were the teachers as they hurried from the boat to their hotels for evening dinner but they were all on hand for the exercises in the Normal School an hour later when addresses of official welcome were delivered by the Mayor, the President of the Board of Trade, Principals Casselman and Lowery, and Mr. A. D. Norris of the Normal School. The tenor of all these speeches was, "We are glad to have you. Come again and spend more time with us. One day is too short".

Then followed the presentation of tokens of esteem, affection, and gratitude to the President, the Secretary, and each member of the Committee. This important work was carried through at break-neck speed by Trustee (Mrs.) E. L. Groves, because the education special was whistling impatiently for the teachers who were, even then, a few minutes late in leaving North Bay. Shortly after eleven o'clock the train pulled out and, as far as sightseeing was concerned, the educational tour of 1921 was over. Until nearly midnight, parades from coach to coach, car "yells", and other frivolity broke the "stillness" inside the speeding train and everybody said good-bye to everybody else. At eight o'clock in the morning Toronto was reached and the jolly, the industrious, the

COMMITTEE IN CHARGE OF TEACHERS' TRIP TO NORTHERN ONTARIO

JOHN MUNRO, B.A.
Hamilton

MAJOR MALCOLM LAING, M.P.P.
Cochrane

CHAS. G. FRASER
Toronto, Sec'y.

MRS. R. H. GRANT

W. J. THOMSON
Toronto

A. E. BRYSON
Cobalt

HON. R. H. GRANT,
Minister of Education

W. F. MOORE
Dundas

MARTIN KERR, B.A.
Hamilton

MRS. W. E. GROVES
Toronto

R. M. SPIERS
Toronto

CHAS. E. KELLY
Hamilton

J. B. CUNNINGHAM, M.P.P.
Sault Ste. Marie

progressive party of teachers dispersed, having learned many lessons, having seen many sights, and having amassed a great fund of useful and interesting information.

Fortunately, the trip was unmarred by accidents or illnesses of any magnitude. True, the official doctor was busy with numerous cases of temporary illness of one kind and another, there were little tumbles that inconvenienced the victims, little losses of articles overboard and such small incidentals, but there was nothing that could by any stretch of the imagination be called serious. For such a "clean sheet" the members of the committee were grateful and to them much of the credit for such a condition is due.

Should there be an educational tour each year? This question was asked of the teachers and of the representative citizens at each stopping place. "Certainly", said the teachers, "for travel is the best means of securing a liberal education and others should have the opportunity that has been accorded us". "Certainly", said their hosts, "for we are always glad to welcome the teachers and we know of no better propagandists for our part of the country than intelligent, well-informed teachers".

To the onlooker it seemed that the tour accomplished two important purposes. It benefited the teachers and through them their colleagues and the youth of the Province; and it impressed on business men, and on the general public, the great importance of the teacher in the economic welfare of the country.

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Garden Work for Early Spring

MARCH has come and with it the first signs of spring. The sun's warmth is beginning to tint the red osiers and to tickle the pussy willows making them stir sleepily in their little brown houses; the maple twigs show a faint blush of returning life and the early robin sings with notes of hope. For the garden lover there is no other month so filled with hopefulness. The perusal of the seed catalogues arouses visions of bright flower masses and of long rows of vegetables, appetizingly inviting in green and red and yellow, untouched by the frosts of June and unblanched by the droughts of August.

The earliest process in garden making is to transfer the imaginary pictures into definite plans. The area of the garden plot is usually too

limited to permit of planting every variety that the dreams of early spring may prompt, but there is usually room for flowers as well as vegetables. Of the former there are some old reliables that will always demand a place because of their proven worth. These include the dauntless nasturtiums that flaunt their bright hues behind their tiny shields, the coy pansies with smiling drooping faces, the gaudy marigolds that do not stint their gold throughout the summer, the frilled and ruffled petunias with their varied colour tones, asters pink and white and purple and red, zinnias that our grandparent's knew as "youth and old age", snapdragons with their rich velvery coats, and tall nicotinas that blow fragrance from their slender trumpets. Nor must we forget the salvias whose bright red clusters give warmth to the gardens in the dull gray days of autumn.

THE HOTBED.—The gardening instinct must respond promptly to the first calls of spring if one would hope to retain these old friends. The hotbed or window-box should be ready for the planting of seeds not later than the middle of March. A box placed in a large window particularly in a bay-window which admits light from more than one direction, will give good results in the starting of plants if the room is quite warm. The hotbed, owing to the better light and greater space, is preferable. A storm sash will serve as glass and a frame can be made at trifling cost from rough boards.

For complete instructions on making a hotbed consult the following—*Bulletin 231, Ont. Department of Agriculture* (pages 11-16); *Ont. Teacher's Manual of Agriculture* (pages 383-6). There is little risk of failure with the hotbed if the instructions given in these two articles are closely followed and if care is taken:

(*a*) To mix the manure thoroughly by turning it at intervals of two days during the week previous to making the bed.

(*b*) To wet the manure and tramp it firmly into the bed.

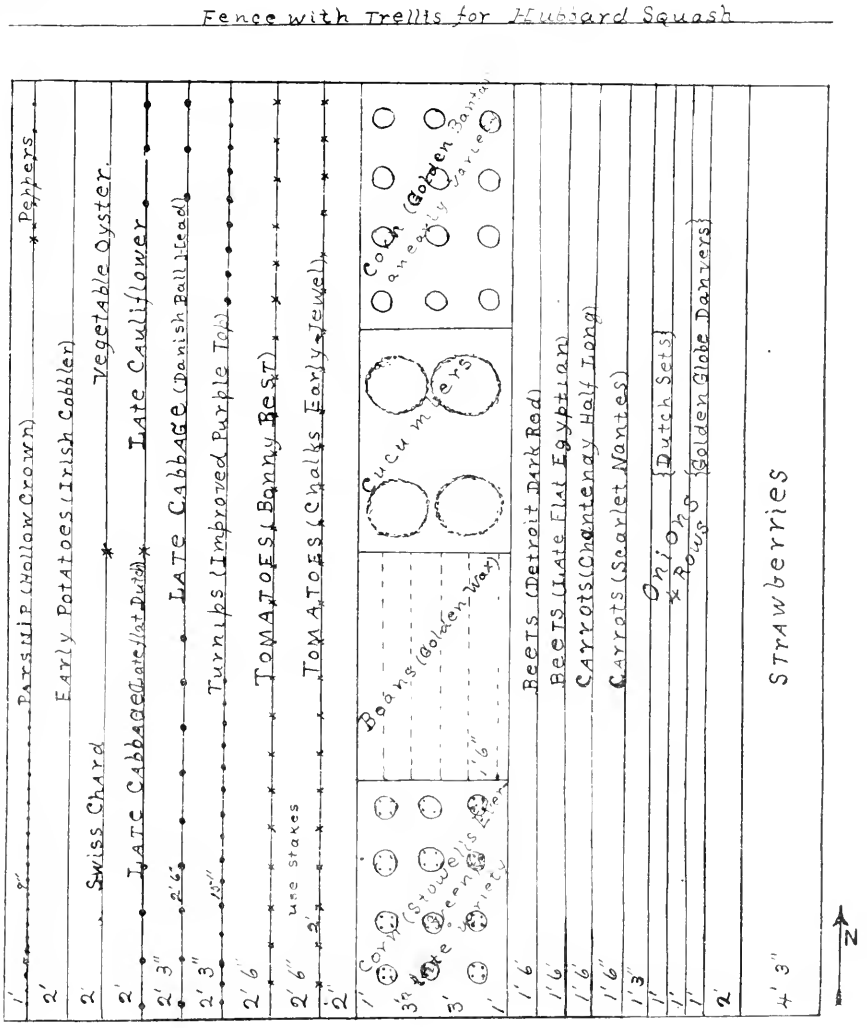
(*c*) To water the plants in the forenoon and to ventilate after watering especially in hot days.

(*d*) To cover the sash with old rugs or blankets when the nights are cold.

In case heating does not begin within about two days after the hotbed has been prepared several holes should be made by driving a pointed stick half way through the manure. A kettleful of hot water is then poured into the holes and they are then closed up.

If the seeds of nicotina, saliva, petunia, aster; zinnia, snapdragon, tomato, early cabbage, heading lettuce and onion are planted in the hotbed about the 15th of March the young plants will be ready for setting out as soon as the soil of the garden is warm enough. The seeds of nasturtium, marigold, late cabbage, and late cauliflower should not be planted until the latter part of April.

Seeds planted directly into the soil of the hotbed will germinate more quickly and the young plants will grow more rapidly than if they are planted in shallow boxes (flats) set into the hotbed. The flats, however, are very convenient because they can be brought into the



schoolroom and the planting, transplanting, thinning and weeding can be done more comfortably there than out-of-doors.

Garden Plans.—Among the garden plans that should be discussed with the classes in school-gardening, are the community class-plot, the individual plot and the kitchen garden.

A plan for a kitchen garden is here submitted. This garden is designed to supply a goodly variety of vegetables throughout the entire year. Beginning with the early radishes, of May and June, lettuce, beans, young beets and carrots, Swiss chard, early potatoes, etc., follow in uninterrupted succession until the parsnips and turnips mature in late autumn. Although the plot is only 42′×50′ it will, under proper cultivation, produce enough vegetables (potatoes excepted) to supply the needs of a family of six persons. The beets, beans, cucumbers, and tomatoes that are not required for immediate use during the summer may be pickled or canned for winter supplies, and the late vegetables including carrots, turnips, parsnips, Hubbard squash and late cabbage can be stored in a cool cellar or in pots dug in the garden. When kept under proper conditions, these vegetables will remain sound throughout the winter.

For city lots, where the area is usually limited, intensive gardening is recommended. Radishes, lettuce, and peppergrass should be planted along lines midway between where the rows of tomatoes are to be set or between where the rows of corn are to be planted. The early vegetables will be gathered before the tomatoes and corn are advanced far enough to cause interference. Late celery may follow early potatoes and late cabbages and cauliflower may be set out in the spaces from which the earliest onions have been removed. The two varieties of corn (see plan) are placed sufficiently far apart to prevent cross-pollination. Very little cross-pollination is possible in the case of the two varieties recommended owing to the difference in the dates of the maturing of their pollen. By planting cucumbers in the position shown in the plan the vines can be trained to grow toward the beans and early corn. the crops of the two latter will be harvested in time to leave the space clear for the cucumber vines. Vines such as Hubbard squash and pumpkin give good results if trained upon a fence. Japanese cucumbers are also suitable for growing on fences and they are good yielders.

Nature Study Observations Based on the Hotbed.

1. *To lead the pupils to discover why the hotbed should face the south.*

Measure the height of the hotbed frame above the surface of the soil inside it. Set a stick of this height upright in the ground and measure the length of the shadow that it casts at noon during the latter half of March. From this let the pupils calculate what part of the hotbed would be without sunshine if the frame were placed east and west.

Compare the rate at which ice and snow disappear from the south slope of a roof with that at which they disappear from the north slope. From this form a conclusion as to the advantage of placing the glass so that is slopes to the south.

2. *To discover the fact that the glass acts as a "trap" for the sun's heat.*

Direct the pupils to place their hands upon a clear window pane through which the sun is shining brightly on a cold day in March. Direct them also to place their hands upon the window-sill where the sunshine falls after passing through the pane and also upon a part of the sill where the sunshine does not fall. Which one of the three is the warmest? Which one of the three is the coldest?

Since the rays of the sun do not warm the pane we must conclude that it is not really heat that passes through the pane but a form of energy called "radiant energy". This becomes changed into heat when it falls on certain opaque substances as wood, soil, coal, etc.

Hold a pane of glass between your face and the stove or radiator. Does the glass prevent the heat from reaching the face? Is the air ever quite cold on sunny days in March?

From the two last tests we learn that radiant energy from the sun passes through glass and air, but radiant energy from dark bodies such as the stove does not pass through glass very readily. Hence we conclude that the glass imprisons the energy of the sun.

3. *To demonstrate that heat is caused by fermentation.*

Insert the bulb of a thermometer into the manure to a depth of about six inches, and make a daily record of the temperatures. Try to account for the variations. Discuss with the pupils other examples of heat produced by fermentation such as the heating of a mixture of bran and water when this mixture is kept in a warm place or the heating of damp hay or straw in a mow or stack. This has been known to cause fires. The spontaneous combustion of oil-soaked rags when these are in a warm place is another example.

4. *Make a record of the length of time required for the germination of each kind of seed.*

Compare the rates of growth of the several kinds of plants.

Compare the rate of growth of plants of the same kind growing in different parts of the hotbed, and try to account for the differences.

The Rural School Library

ADRIAN MACDONALD

IN a rural school the library should be an educational force second only to the teacher in its cultural influence. It may be noted that I have been careful to say it *should* be a cultural force; as a matter of fact, what is its usual condition? Anyone who has had the opportunity of visiting rural schools will know perfectly well that generally

the library is of such an uninviting character as to exert no influence whatever.

In probably seventy-five per cent. of the schools of Canada (I am speaking here of rural schools, but I could say the same of city schools) the library is in a deplorable condition. It is too often dusty, badly shelved, stuck off in some inaccessible corner, and filled with books most unattractive to children. In short it is likely to instil into the child's mind from the first day he enters the school the misconception that books are musty, dusty and dry.

If a library is to fulfil its purpose with children, if it is to be stimulating and broadening in its influence, it must be attractive.

The following list of books has been prepared in consultation with the librarian of the Peterborough Normal School (Miss Munro was previously librarian in the Children's Department of the Peterbourogh Public Library, and knows what children like to read) and its purpose is to show what we consider a model rural school library should be. It may be stated that we did not consider it necessary to include general reference books and text-books.

FORM I

Brooke, L. Leslie—Johnny Crow's Garden
Caldecott, Randolph—Picture Books
Francis, Joseph G.—Book of Cheerful Cats
Grover, E. O.—Sunbonnet Babies
" " —Overall Boys
" " —Folk-lore Reader
Mother Goose—
Lear, Edward—Book of Nonsense
Stevenson, R. L.—Child's Garden of Verses
Lang, Andrew—Cinderella
" " —History of Whittington
" " —Jack and the Beanstalk
" " —Jack the Giant Killer
" " —Little Red Riding Hood
" " —The Princess on the Glass Hill
" " —The Sleeping Beauty in the Wood
Potter, Beatrix—The Pie and the Patty Pan
" " —The Roly-Poly Pudding
" " —Tale of Peter Rabbit (and others)
Aspinwall, A. T.—Short Stories for Short People
Hunt, C. W.—About Harriet
Hopkins, W. J.—The Sandman, His Farm Stories.
Hopkins, W. J.—The Sandman, More Farm Stories
Chance, L. M.—Little Folks of Many Lands
Blaisdell, A. F.—Stories from English History
Cragin, Laura—Sunday Story-hour

FORM II

Anderson, H. C.—Fairy Tales
Baldwin, James—Fairy Reader
" " Fairy Stories and Fables
Craik, D. M.—Little Lame Prince
Lorenzini, Carlo—Adventures of Pinocchio
Lang, Andrew—Blue Fairy Book (and others)
Lagerlof, S. O. L.—Wonderful Adventures of Nils
Howells, W. D.—Christmas Every Day
Ruskin, John—King of the Golden River
Burnett, F. H.—Cosy Lion
De la Ramee, Louise—Moufflon
Holbrook, Florence—Book of Nature Myths
Scudder, H. E.—Book of Fables and Folk Stories

Kipling, Rudyard—Just So Stories
Stein, Evaleen—Gabriel and the Hour Book
Brown, A. F.—The Lonesomest Doll (and others)
White, E. O.—When Molly Was Six (and others)
Stevenson, B. E.—Home Book of Verse for Young People
Field, Eugene—Poems
Stewart, Mary—Tell Me a True Story
Perkins, L. F.—Belgian Twins, etc.
Shaw, E. R.—Big People and Little People of Other Lands
Macmillan Pub. Co.—Children Here and There (and others)
Andrews, Jane—Seven Little Sisters
Macmillan Pub. Co.—Children of Then and Now (and others)
Andrews—Stories Mother Nature Told
Johonnot—Friends in Feather and Fur

FORM III

Alcott, L. M.—Little Women (and others)
Arabian Nights—Tales from Arabian Nights
Baldwin, James—Fifty Famous Stories Re-told
Defoe, Daniel—Robinson Crusoe
Drummond, Henry—Monkey That Would Not Kill
Duncan, Norman—Adventures of Billy Topsail
Grimm—Fairy Tales
Harris, J. C.—Uncle Remus
Hawthorne, Nathaniel — Tanglewood Tales
Kingsley, Charles—Water Babies
Kipling, Rudyard—Jungle Books
Macdonald George—At the Back of the North Wind (and others)
Macleod, Mary—Book of King Arthur and His Noble Knights
Pyle, Howard—Merry Adventures of Robin Hood
Roberts, Charles G. D.—Kindred of the Wild (and others)
Seton, Ernest Thompson—Wild Animals I Have Known (and others)
Long, W. J.—Wilderness Ways (and others)
Spyri, Johanna—Heidi
Carroll, Lewis—Alice's Adventures in Wonderland
De la Ramee, Louise—Dog of Flanders
Sewell, Anna—Black Beauty
Ingpen, Roger—One Thousand Poems for Children
Church, A. J.—Aeneid for Boys and Girls
Robertson, Ella Broadus—The Heart of the Bible
Macmillan Pub. Co.—Life in England Then and Now
Macmillan Pub. Co.—Government Then and Now
Andrews, Jane—Ten Boys who Lived on the Road from Long Ago to Now
Mabie, H. W.—Heroes Every Child Should Know
Macmillan Pub. Co.—Here and There in Scotland and Ireland
Little Cousin Series
Miller, O. T.—First Book of Birds
Morley, M. W.—Butterflies and Bees

FORM IV

Baring, Gould S.—Grettir the Outlaw
Bennett, John—Master Skylark
Bullen, F. T.—Cruise of the Cachalot
Clemens, Samuel—Prince and the Pauper
Cooper, J. T.—Last of the Mohicans
Dickens, Charles—Christmas Carol
Dix, B. M.—Merrylips
Dodge, M. (M.)—Hans Brinker
Ewing, J. H. (G.)—Jackanapes
Fraser, W. A.—Mooswa
French, H. W.—Lance of Kanana
Huntington, Edward—His Majesty's Sloop Diamond Rock
Kingsley, Charles—Westward Ho
Kipling, Rudyard—Puck of Pook's Hill
Macdonald, George—Ranald Bannerman's Boyhood
Pyle, Howard—Men of Iron
Scott, Sir Walter—Quentin Durward
Seaman, A. H.—Jacqueline of the Carrier Pigeons
Shaw, Flora—Castle Blair
Stevenson, R. L.—Treasure Island
Zollinger, Gulie ma—Widow O'Callaghan's Boys
Repplier, Agnes—Book of Famous Verse

Foster, Charles—Story of the Bible
Macmillan Pub. Co.—Pioneers of Science and Invention
Herrington, W. S.—Heroines of Canadian History (and others)
Nursey, W. R.—Isaac Brock
Macmillan Pub. Co.—Discovery and Commerce
Stack, F. W.—Wild Flowers Every Child Should Know

There are certain points with regard to the above list upon which I should like to lay special stress.

1. *The books in the list are of a sort calculated to appeal to children.* Too often a library is filled with books that may have been attractive to old men of the Victorian era, but which are dust and ashes to the children of to-day. Such books the pupils will read only under compulsion, with the result that their genuine reading tastes will not be developed. If ever they do start to read they will probably be seduced by tawdry yarns of outrageous adventure, turned out by hack writers at so many dollars per thousand words, or silly romances fairly dripping with morbid sentimentality—"luvally slush." Is it not better to give the children in school good wholesome thrilling books, books like Stevenson's "*Kidnapped*," that will show them that what is best is also most readable?

2. *There are in the list books suitable for all grades.* Very seldom does a rural school library contain any books suitable for a pupil of a lower grade; yet a pupil in the earlier stages of his reading should be catered to even more than later. After he has become a fairly ready reader he *may* find reading material for himself. In the above list a child of any age will find a book that just suits him. The first two, for instance, are merely picture books; the next four are story primers; simply told fairy stories follow; with hero and adventure stories for the older pupils.

3. *In the list an attempt has been made to provide reading material to suit the children's varied tastes.* There are books of imaginative fiction, books of scientific interest, books of travel, biography, history, nature study, poetry, some Bible stories; books that will appeal especially to girls, and books that will appeal especially to boys. In this connection, it might be well to note the fact that girls will frequently read boys' books with pleasure, but boys will practically never read girls' books. Hence it is not necessary to include so many peculiarly girls' books.

The expense of creating such a library, especially in view of the liberal grants made by the several Departments of Education, would be almost negligible, when compared with its infinite possibilities. Turn a child loose in such a library and it is impossible to say where he will end—perhaps in the Premiership of Great Britain. Turn a generation of children loose in such libraries and there will be created a generation of readers. A generation of readers means an intelligent public opinion; and an intelligent public opinion means a prosperous and happy nation.

Music in Public Schools

A. T. CRINGAN, MUS. BAC.

IN teaching music in schools it is advisable that the subject be treated in such a manner that the various elements which enter into the completed performance of a musical composition may receive their necessary share of attention. These elements may be classified broadly as follows:

Training in singing intervals in Tune, usually in the form of Modulator Drill.

Exercise in Time; various divisions of the Pulse, Measure Forms, etc.

Ear Training; recognition of scale tones and melodic passages.

Sight Singing, combining the elements of Tune and Time suited to each grade.

Voice Training, suitable for the age and experience of the pupils.

Songs, their interpretation and expression.

It must, obviously, be understood that no single element can be attended to without some attention being given to the others at the same time. They are interdependent. Not even a brief Modulator Drill may be given without the elements of Rhythm and Tone Production being considered to some extent. However, in order that the mind may be concentrated on "One thing at a time" it is essential that the aim of the music lesson be directed at one or other of the elements mentioned during a part of each lesson. In graded schools, in which a regular daily period of fifteen or twenty minutes is devoted to music, it is desirable that the lessons be planned on a definite basis. It is not possible, nor even desirable, to give special attention to each element in every lesson. As to which should receive this special attention, the teacher in charge should be best qualified to judge. Let her ascertain in which department of work the pupils seem deficient, then concentrate on that, daily, for a week, or longer if necessary, until her pupils have mastered it thoroughly. Should the pupils be in the habit of singing out of tune, give Modulator and Voice Drill in which the attention is strongly concentrated on intonation. Should they be inclined to sing in a lazy, lifeless manner, give drill in Time exercises, from the blackboard, from dictation and in accentuation. Should they be deficient in Tone recognition, give daily drill in Ear Training in naming scale tones, analysing rhythms, Music Appreciation and Silent Reading until satisfactory results are secured. One of the best teachers whom I have

ever known was wont to advise his assistants to "Make a FAD of some subject for weeks at a time, raise it to the highest level you can possibly attain, and it will never return to the level from which you have raised it." As an illustration of the success of this method I would venture to intrude a somewhat personal experience. Some years ago, when teachers had not yet acquired confidence in the employment of their voices while in front of their pupils, it was found that the results in Ear Training, in the Toronto Public Schools, were not quite satisfactory. The teachers were urged to specialise on this subject for a month or so. Being at that time Supervisor of Music in the Toronto schools, I made an examination of all classes and had to report that only about twenty per cent. of the classes were up to the requirements of their grade. The names of the teachers of the successful classes were mentioned in my report to the Inspector, who issued a circular to all schools in which he expressed the hope that the following report would contain a larger percentage of successful classes. The result was most gratifying. On the next report I was enabled to state that over eighty per cent. of all classes were fully up to the requirements in Ear Training. Subsequent investigation proved that teachers were now teaching this subject with a much greater degree of confidence that at any time previously.

It may now be in order to offer some suggestions as to the aim of drill in the various elements mentioned and the methods whereby this may be attained.

Modulator Drill. This is in effect the foundation of all training in singing scale tones and the innumerable intervals by which they are approached. On the Modulator each note is represented in its proper position in the scale and the various scales are represented in their respective relations to other scales. It is essentially a chart in which Tone-, and Scale-Relations are graphically presented. In class Modulator Drill a definite objective should be kept in mind throughout. Should this not be done the teacher's pointer is apt to meander aimlessly up or down in a manner which quickly shows its depressing results in declining interest and increasing listlessness on the part of the pupils. What are the aims in successful drill? One of the first should be to familiarise the pupils with any new tones which have just been introduced. In the case of Junior First classes this may be the note Te or Ray, in Senior First, Fah or Lah, and, in Third Book classes Fe or Ta. Assuming that the tones Te and Ray have been introduced in the immediately preceding lesson, to a class of Junior First pupils, and it is desired to "drive home" the mental effect of each until they can be readily sung, irrespective of the interval by which they may be approached, this

method may be found effective. The teacher sings the note, Te, directing pupils to observe its shrill, piercing effect and its tendency to lead upwards to Doh. Pupils are then directed to sing Te Doh′ after which they are directed to repeat this progression *after any notes the teacher may sing.* The teacher now sings, one at a time, the following phrases: T D′ R′, R′D′T, D′T D′, S D′ S, S R M, M S R, S M D, after each of which the pupils will sing T D′. Should they fail at any time their attention should be directed to the mental effect of TE and urged to recall it as sung at the beginning of the exercise. The next step in the drill should be to ask pupils to endeavour to reproduce Te Doh′ after any tones *which they themselves may sing.* Following the teachers' pointer the pupils will now be found to sing readily such phrases as D′ T D′ S T D′ S M T D′ S M R T D′ S M D T D′. The same procedure may be followed in any grade and should convince the teacher that any interval is easily sung, provided the pupils have a clear mental image of the tone *on which the interval ends.*

Another objective in Modulator Drill will frequently be found in rehearsing any difficulties of intervals occurring in exercises or songs under study, or about to be studies. It is always advisable to anticipate difficulties of interval and incorporate them into the Modulator Drill preceding the first reading of a song or exercise. This method tends to give confidence in reading from the printed page and reduces uncertainty of attack and hesitancy to a minimum. When, in reading a song or exercise, wrong notes are sung, an appeal should be made to the Modulator and the difficult passage drilled upon until it has been mastered.

Several defects are frequently observed in methods of conducting Modulator Drill. Among these are Needless Repetition and Lack of Rhythm. There is nothing to be gained by frequent repetition of the same phrases. The effect is most depressing and productive of listlessness and inattention. Get variety and avoid falling into ruts. Try the effect of having a fellow teacher take your class for a five minute Modulator Drill and observe whether your pupils sing as readily as when *you* have the pointer. You may find that you have fallen into a rut to such an extent that your pupils anticipate the tones you are in the habit of pointing.

Although the objective of Modulator Drill is primarily the teaching of TUNE, it must not be supposed that Time and Rhythm should be neglected. There should be a fairly definite suggestion of Musical Form and Rhythm throughout. If it begins in Four Pulse Measure it should continue in such with the cadences quite clearly felt, even though not conspicuously marked. In preparing a Modulator "Voluntary" the teacher might, with advantage, adopt the suggestion made by a well known professor in the University of Toronto to his students,

on the afternoon preceding one of the Hallowe'en theatre parties in which the University boys were wont to enliven the proceedings in a characteristic manner. He said: "Gentlemen! I shall dismiss you somewhat earlier this afternoon, as you may wish to spend some time in the preparation of your impromptu remarks for this evening". While a Modulator Drill may appear to be quite spontaneous in its melodic progressions, it is not likely to be interesting unless the teacher has taken the trouble to prepare the general plan of the melody in advance.

TIME DRILL. The teaching of Time is commonly supposed to be a more simple matter than the teaching of TUNE, but close investigation proves that this idea is not by any means correct. While it has been demonstrated that ninety-eight per cent. of children can be taught to sing in tune, it has been found that the proportion of those who can be taught to sing in correct time is much smaller. This is largely a matter of racial temperment. The rhythmic faculty is found to be more pronounced in the Latin, Celtic and Negro races than in the more phlegmatic Anglo-Saxon and Teutonic. In the junior classes of our schools there will be found a limited number of pupils who cannot sing in tune, but a much larger number who are so lacking in a sense of rhythm that they cannot even keep step with their fellows while marching to a musical accompaniment. In addition, the appreciation of rhythm is less susceptible of development than the sense of intonation. As a consequence it is necessary that much attention should be given to the arousing and development of an appreciation of rhythm and accentuation. In the junior classes this may be introduced by having pupils listen while a melody with strongly marked accents is played or sung. Pupils should be directed to listen carefully, while beating time with their pencil, or clapping hands. The teacher should endeavour to lead them to discover, from this exercise, that their beats occur at regular intervals, that some are louder than others, that the louder beats also occur with regularity, and that this leads to their falling into groups, called measures, of two, three or four pulses each. This should be followed by exercises in listening to melodies of various sorts until they can tell whether they are written in two, three or four pulse measure. This is best accomplished by requesting them to count the pulses, while beating time, and to count each strongly accented pulse as number one.

When the pupils have discovered that pulses and accents recur at regular intervals they may be shown that the Pulse is the accepted unit of measurement in Time. Drill in the use of this unit of measurement should form a part of every lesson in Time from this stage up to the more advanced work of the Fourth Form. Time Drill should not be confined to singing time exercises from the black board or printed

page, valuable as this undoubtedly is. An excellent form of Time Drill will be found in having pupils sing, preferably to the Time-Names, varied exercises, from the teacher's dictation. This, in a First Book class, would be conducted as follows:

Teacher, "One, one, two," meanwhile beating time. Pupils sing Taa, taa, taa-aa. This is now inverted by teacher dictating "Two, one, one" after which pupils sing Taa-aa taa, taa. In a Second Form class the exercise would be of a more advanced nature, including the various time divisions usually included in the Syllabus of Studies for this grade. The following will be found useful.

Teacher dictates:	Pupils sing to Time-Names:
One, one, two,	Taa, taa, taa-aa.
One, one, halves, one.	Taa, taa, taa-tai, taa.
One, halves, two,	Taa, taa-tai, taa-aa.
Halves, halves, one, one,	Taa-tai, taa-tai, taa, taa.
One-and-a-half, half, one, one,	Taa-aatai, taa, taa.
One-and-a-half, half, halves, one.	Taa-aatai, taa-tai, taa.
One quarters, one, one,	Taa, tafatefe, taa, taa.
One, halves, quarters, one.	Taa, taa-tai, tafatefe, taa.

The above, it will be readily observed, are all in four pulse measure, but any other form of measure with which the pupils are familiar may be used. As the pupils become proficient in singing from dictation the usefulness of the drill may be greatly enhanced by having individual pupils come to the blackboard and write the notation for any of the measures which have just been sung. Their notation may not be all that might be desired but, when correct, each measure should be copied by the teacher and written in clear characters, one under the other, until they form a most useful Time-Chart. This may then be utilised in providing an enjoyable form of Time-Drill by requiring pupils to sing to Time-Names any measure indicated by the teacher's pointer.

Ear Training and Study of Songs will be treated in the ensuing articles.

NATURE'S ABHORRENCE

The Physics instructor in a Texas high school was teaching a German girl whose vocabulary was not very extensive.

"What is a vacuum?" he asked.

"I have it in my head, but I can't express it," was the reply.

"Willie, how often have you talked in school this morning?" asked the teacher.

"Just onct", said Willie.

"Just onct! Tommie, what should he have said?"

"Please, teacher, he should have said twict".

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Silent Reading

IT has been estimated that more than one quarter of the total time of our public schools is now devoted to the teaching of reading. Indeed, in the primary grades probably seventy per cent. of the time is devoted to exercises which have as their aim the interpretation of the written word. This is but natural since reading constitutes the basic instrument which enables one to penetrate the mines of information on every topic imaginable. This information remains forever hidden to the illiterate for it can only be reached through the interpretation of the printed symbols.

Practically all the reading of the average person is done silently and yet in our schools we give little training for silent reading. Since ninety per cent. of our reading is done silently it follows that the child should be trained in silent reading. It is necessary in the primary grades until they have mastered the mechanics of reading to give oral reading. But even here we can do much that will help the child to be a rapid reader and to comprehend what he is reading.

Silent reading has many advantages. The whole attention of the children is centred upon the thought. Each child does all the work. While oral reading deals with parts, silent reading deals with the whole story.

Careful investigations have demonstrated that good readers are also rapid readers. Rapid readers exhibit a better grasp of content, a better idea of the relations of the parts, and better memory than slow readers. Pace in reading is dependent upon the ability to grasp words in their relation, that is, in whole phrases or sentences, without strongly focusing attention upon individual words. The moment attention is directed upon single words or the phonic elements of words, continuity of thought is interrupted and grasp of content weakened.

Many experiments by eminent men have proved that the passage of the eyes across a line in reading is not a continuous movement but is broken into a number of pauses and movements and the less the number of pauses the more rapid is the reading. In recent tests made by psychologists it was found that second book (grade 4) pupils reading silently averaged *eight* lines more per minute than when reading orally—a superiority of forty per cent. in point of speed. This, superiority in

point of speed continues to manifest itself throughout the grades, the pupils reading approximately one complete word more per second silently than they did orally. These conclusions are only what one would naturally expect. Vocalisation which involves the elaborate movements of the lips, tongue, vocal chords and throat is a slower process than visualisation.

You can see many words while you are pronouncing one. In vocalising you retard the rate of visualisation in order that the two may keep pace.

Silent reading is not only more rapid than oral reading but it is also superior in point of comprehension of the matter read. True, oral reading secures more time for comprehension but this seeming advantage is counterbalanced by the attention being given partly to articulation and enunciation, partly to understanding of content. From tests made by Hendricks the following conclusions were reached; "In the percentage of thought reproduced the rapid readers excel, giving 91 per cent. of the thought as compared with 76 per cent. reproduced by slow readers."

The rapid reader is more efficient than the slow reader. The poor reader is unable to pass readily from the printed symbol to the meaning The mechanical processes are obstacles and he loses time and comprehension, while the rapid reader is fluent and moves without hesitation to the meaning.

The factors affecting silent reading are practice in silent reading, decrease of vocalization, training in perception, content of the subject matter, the regular and uniform movements of the eye, attention, and ability to comprehend the meaning of the content to be read.

Necessarily primary teachers have to use exercises in oral reading because we have the mechanics of reading to teach. Although this is the case we can begin to train for silent reading and this will reflect on our oral reading. The following are some devices which have been tried and found helpful. Since perception and training of the eye play a large part in silent reading, games in sense perception are beneficial.

1. On a table place a number of articles. Cover with a cloth. Have four or five pupils look for an instant while cloth is removed. The children each tell what they saw. At first they may be able to tell only one article but they soon are able to tell from ten to twelve.

Later when they are able to write they may return to their seats and write down as many as they remember.

2. Instead of objects use four or five cards with words (written or printed) on the table. After a quick look ask each child to tell the words he saw.

3. Flash Cards. Write or print words on cards 4½″ by 3″. Flash them quickly before the class.

4. Give each child a bundle of ten cards. On these cards are words or phrases. Give them one minute to study, then turn cards over. Each child tells the cards he knows. Time each child and keep his record. The pressure of time control and the chart are very effective in increasing each child's rate of silent reading.

5. Put about 25 cards on the blackboard ledge. Ask a child to pick out ten he knows. Time his effort. Re-arrange the cards and have another child select ten. Test and time his efforts. Keep a class record. It stimulates the class to see their improvement.

6. Hide a certain word among other words on the ledge. Let three hunt at the same time. Time them. The next set of three will hunt more quickly.

7. Have toys on a table or ledge. Also have cards with names on. Hold a toy up and have the children hunt for its name.

8. Place a number of articles on the ledge. Have the children place the right name beside each article. Time each child while placing the cards taking into account the correctness of the child's work.

9. Tell a story up to a certain point of interest and then time the children while they read silently to find out how the story ends or the answer to a question.

10. Use a supplementary reader and assign a certain part to be read. After the majority are finished the books are closed and the children give the content in response to a thought question by the teacher.

In giving back the content of the story the child may use different mediums. He may answer a question, dramatise, reproduce the story, use plasticine or illustrate by crayola or paper cutting.

11. Guessing Game. Cards with words, phrases or sentences on, are distributed. Each child acts out the thought or word and the others guess it. If it cannot be guessed after three trials the child shows the card and reads it to the class.

12. Call your class and give them a story which is new. Tell them to read silently for one minute and mark the last word when the signal for stopping is given. Close the book and have the pupils reproduce what they have read. In primary grades the reproduction will need to be oral, in upper grades it may be written. Count the number of words each reads. When reproducing see how much each child is able to remember.

Klapper says, "This silent reading under pressure of limited time if made a regular part of every reading lesson, brings advantages that are far-reaching and permanent: (1) It develops concentration; (2) It trains the eye to be an efficient tool in thought-getting by subordinating words and symbols to sentences; (3) It insures a thought basis

for oral reading; (4) It guarantees better oral reading for good expression is prompted by comprehension."

13. Under a roller shade have a dozen or so phrases or short sentences. By reading at a glance the lowest sentence and not the others the children soon become expert in taking in a group of words. A daily exercise of this kind for a term insures rapid readers.

14. Group a few at a time about you. Open a book in your hands and ask the children to read at the top of the right hand page. Close the book quickly. Ask for the words seen.

15. Ask pupils to open their books at a certain page, e.g., the story of the pig. Find the sentence telling what happened to the pig or the two words describing the pig. As soon as each has found the place the book is closed.

16. Or ask for the last word on the 10th line or the first word of the 6th or the longest word in line 8 or the shortest word in line 2 or the word having 4 letters in line 7 or the middle word of line 1. This method gives eye training that affects the rate of reading very much.

17. In primary grades the meaning is the element that must be stressed. If you have a series of action sentences each day the child becomes alert. Such sentences as: Come, Go, Run, Open the book, March, Ring the bell.

18. A game that is played with effect is to write directions on the board. Hide a number of articles. Write the child's name and the article he is to look for as Mary—doll, Tom—horn. If he or she cannot find the article in a given time another name is substituted.

19. Print or write a number of phrases or short sentences on the board and number each. Call the numbers and the child's name. He reads the sentence. Speed this reading by competition. Later on divide the class into two camps and give the side that answers first a mark. The following from "Five little Birds." Ontario Primer were used a few days ago:

1. Five birds.
2. "How do you do?"
3. "South we must fly."
4. "I like you."
5. Five little birds.
6. Can sing.
7. "A crust, if you please."
8. Can fly.
9. "Good-bye, good-bye."

20. Even beginners can be trained. After the word "hen" had been taught, the children counted the number of times "hen" occurred in a certain lesson. The first one to whisper the number to the teacher

went to his seat. Then they were given some paper and a pattern they cut out as many hens as they could find the word "hen" in their lesson.

21. Write a word on the board. Rub it off quickly. Ask for the word. Or write a number of words. Rub one off quickly. Ask for the word rubbed off. Or place five words in a row. One is removed while the children's backs are to the board. Then one tells the missing word. It develops alertness and concentration.

Hints and Helps

Books for Primary Rooms

The Primary teacher will find a veritable gold mine in "First Steps for Tiny Folks," by Margaret Piggott. These delightful little books are a series of sixteen little stories that are a joy to the children. The adventures of Dan, Dun and Don on the plank at the pond kept the interest of some small boys as they followed the fun of the three bad pups. And the story of Mip, Mop, Mup, the three kittens, was a delight to the little people. To all the fair in the dell was of intense interest throughout. They are so simple (mostly of words of three and four letters) that they can be used very early in the term and are so related to child life that the interest in them is keen. The Oxford University Press, 25 Richmond St., Toronto, publishes these little books.

Language Training in Form II (Grades III and IV)

MISS KATE STURGEON
Orde Street Public School, Toronto

Written Composition

WRITTEN compositions may be considered under three topics. (1) Compositions written by the teacher from sentences to be developed from the pupils with the aim of impressing mechanical details such as position of title, margin, indentation and arrangement of sentences. (2) Compositions written partly by teacher and partly by pupils. (3) Compositions written by pupils. Each topic presupposes oral practice during which the teacher assists the pupil to organize his thoughts.

Topic I. In dealing with this topic we may make use of conversation lessons on familiar objects, a pen, a ruler, etc. By questioning,

develop the following statements about the pen. "My pen is brown. There is a nib on one end of it. It is about seven inches long. It is useful. I can write with it." Let us call this a story about "My Pen." Draw attention to the fact that story-books and others have names just as we have. Pupils will tell of names of books seen on the shelves at home, in the schoolroom, and in the Public Library. These names are those by which the books or subjects are known and they are called titles. Through observation of a number of titles the use of capital letters for the important words in a title may be developed.

To-day we are going to be story-writers, and will make a story-house on the blackboard for our little stories about the pen. Margin lines, a short line for the title of the story and a number of lines on which "little stories" are to be placed are then ruled. Write the title "My Pen" on the line prepared outlining the capital letters with yellow chalk. Each pupil will supply one story, the teacher writing the same slowly and in large writing, drawing attention to a necessary little space for paragraph indentation, and to the beginning and ending of each sentence. Use coloured chalk to stress the importance of capitals and periods. Draw attention also to the position of each sentence—each new sentence follows the period or closing mark of the preceding sentence. As each sentence is written, a tick is placed in the margin and when all have been written, the ticks, sentences, capital letters and periods are counted and in each case five is the result. Different pupils are asked to read the story as a whole and in doing so to indicate the position of the periods *e.g.*, "My pen is brown. (period)". One pupil at the blackboard may check off each story while another pupil reads, the reader to pause at each period. This same method of "checking off" sentences may be used to advantage in any reading lesson especially in the case of pupils who "read over" the periods or closing marks.

Pupils may now be asked to rule story lines and copy from the blackboard what has already been written. Insist upon correct arrangement, position of title, indentation, etc. Frequent practice of this kind—a variety of seasonable subjects will suggest themselves—games, reproduction stories, etc., will result in correct written composition along simple lines. Models of good English may be written by the teacher and form a basis for the study of good form in the use of words and phases. During the term samples of good sentence structure in oral and written work of pupils may be written on the blackboard and prove an incentive to other pupils.

Topic II. Let us suppose that a twenty to thirty minute lesson in Oral Composition—story reproduction—"The Lion and the Mouse" (See outline of same in February number of 'The School') has already been taught and pupils have had necessary practice in oral expression.

Require them to rule lines for a story (See Topic I) about two pages in work books. On the blackboard are to be seen difficult words and phrases and the two paragraph pictures. The title is written—pupils may choose their own if they wish—and sentences belonging to the first paragraph are developed by the teacher, and written on blackboard, and the pupils copy the same. Follow method outlined in Topic I. Pupils may be allowed to write stories belonging to the second paragraph picture, the teacher supervising the work. At the end of the lesson, some stories may be read. (See reading under Topic I), when use of good English words and phrases will be commended, and errors corrected.

Topic III. Following a lesson on story reproduction pupils will be required to rule lines for a story and write the story watching words and pictures on the blackboard. Later on, when pupils have become accustomed to this method, a story suitable for reproduction by children of this grade, may be told and practice given in oral expression, paragraph pictures being described by pupils but not drawn on blackboard. Papers are now handed to the pupils, a larger one to be prepared for written work, and a small one on which paragraph picture-frames are to be drawn and filled in with lead pencil, the titles of same and titles of story to be supplied by pupils. Two-paragraph stories are best. Pupils watch the pictures as they write and at the close of the lesson, papers are returned and marked by the teacher.

When "Question," "Command," "Exclamation" and "Quotation" sentences have been taught, they may be used in oral and written composition. In the case of the "Quotation" sentence a tick with a cross beside it may be placed in the margin and an additional cross may be used for each sentence used by speaker. Interest is thus added to written work and the value of variety in expression is recognised.

Literature for the Third Form (Grade VI).

WE have all seen waves striking against a breakwater and coming back again, some irregularly and some without any material alteration in their shape. Air waves or sounds may be similarly reflected and the most striking way we can prove to ourselves that sound is reflected is in hearing an echo. A high wall, a steep rock, a mountain or a clump of trees will often make an echo. Various natural peculiarities have made the echoes in many different parts of the world famous. For instance, in Mammoth Cave, Kentucky, the largest known cavern in the world, so wonderful is the echoing quality of the rocks that many writers have written on the

subject. Such also is the mountain region surrounding the Lakes of Killarney in Ireland. To-day we are going to read what an English poet has written about the famous echoes of Killarney.

Lord Tennyson visited the lakes in 1848 and many of their chief characteristics find a place in this poem which he wrote to commemorate his visit. There are three of these lakes, the Lower Lake (Lough Leane), the Middle Lake (Muckross Lake) and the Upper Lake. They lie beside the mountains of Kerry, one of which is called Purple Mountain. Several summits of these mountains are between 3,000 and 3,500 feet high. On the Lower Lake stand the ruins of an ancient castle known as Ross Castle. Near the Middle Lake is the Torc Cascade, a pretty broken cataract. There is another cascade back from the west shore of the Lower Lake and there are other minor waterfalls. The most famous echo in Killarney proceeds from Eagle's Nest, a high cliff with a glen behind it, belonging to the region of the Upper Lake. If a bugler stands at the foot of the valley and sets going the notes of the octave, the echoes of the notes are repeated several times. The view is one of great natural beauty—lakes of violet-coloured waters reflecting Purple Mountain, a silver river that winds and flashes through wood and rock, murmuring waterfalls, all bathed in an atmosphere of fairy-land.

While the teacher is reading the poem aloud, let the pupils try to discover what thought these beautiful mountain echoes suggested to the mind of the poet.

VIEW OF THE POEM AS A WHOLE—

Q. What natural peculiarities of the region are mentioned which would be favourable to the production of echoes? "Castle walls", "snowy summits", "cliff", "scar", etc.

Q. What particular echoes are set flying?

Q. What words in the second stanza are used to describe these echoes?

Q. To what does the poet compare them?

A. The horns of Elfland.

Q. What changes take place in the sounds as he listens? Why?

Q. How many echoes are spoken of in the third stanza? Two. (1) They (the echoes of the bugle). (2) Our echoes.

Q. What is it which Tennyson calls "our echoes?" A. The results of our actions—our influence.

Q. Against what do our actions strike to produce echoes? The lives of other people.

Q. How are the echoes of the bugle different from "our echoes?"

A. The former faint and fade; the latter "grow for ever and for ever."

Q. What two words bring our the contrast best? A. "Our" and "Grow."

Q. What thought then did the mountain echoes suggest to the poet's mind? The results (echoes) of our actions never die, or our influence is immortal, or no one lives to himself.

The blackboard might show the following points:

Main thought: The results (echoes) of our actions, unlike the echoes of the bugle, never die.

Stanza I.—Suitable surroundings to secure an echo.

Stanza II.—A description of the echoes of the bugle.

Stanza III.—The contrast between the echoes of the bugle and our echoes.

THE STUDY OF DETAILS—

Help your pupils to picture out the beauties of light and colour suggested by the splendour of sunset falling upon the old ruins of Ross Castle, upon Purple Mountain, the rippling lakes and the leaping cataract.

Old in story—Famous in legend or history.

Long light—Because the sun is low in the sky.

Shakes—Quivers because of the motion of the water.

Why thinner and clearer?

Scar—A bare, isolated rock or a rough broken place on the side of a mountain.

The horns of Elfland—The echoes seem to be sounds coming from horns blown by Fairies.

Why purple glens?

Describe a rich sky. The echoes seem to pass into the limit of distance and then die away.

Faint—Become indistinct.

Have pupils give examples of men whose influence (echoes) have come down through the centuries—great explorers, great inventors, etc.

Finally have different pupils read aloud to test their appreciation and have all observe the musical effects and imitative harmonies throughout the poem.

W.L.C.R.

HEARD IN THE CLASSROOM

Succulent roots are roots that stick to the walls by suction.

Latent heat is heat that is left over.

Inertia is the state in which all inanimate objects stand, and sometimes in which all animate objects stand.—*School Science and Mathematics.*

Grammar for Junior Fourth (Grade VII)

THE CLASSIFICATION OF SENTENCES ON THE BASIS OF STRUCTURE

Introduction In our study of the sentence we have learned certain facts. These should be recalled by questioning.

1. A sentence expresses a complete thought.

2. These thoughts are expressed in different ways: (*a*) as assertions, (*b*) as questions, (*c*) as commands.

Aim In our investigation to-day we shall find that there is a further classification of sentences on a new basis. Let us look at these examples and see if we can find out *this classification* and its *basis*.

Examples 1.||An American fleet of fourteen vessels| sailed from Sackett's Harbour in April.||

2.||An army of about seventeen hundred men|was on board these vessels.||

3.||General Sheaffe|sent a small force to oppose the Americans,||but|| it|did not arrive in time.||

4.||General Sheaffe| hoped till noon to save the capital,||but||he| then saw that he could not do so.||

Examination of Examples Have class read each sentence, divide it into subject and predicate by a vertical line, and underline the bare subject and the verb. In doing this the class find that each of the first two sentences contains but one statement, and each of the last two contains two statements. These statements may be marked off with double lines as indicated.

Generalization What two kinds of sentence have we found in these examples? Those that contain one statement, and those that contain more than one.

What is the basis of the classification here found? Whether the sentence makes one statement or more than one.

This may be called a *Classification on the basis of structure*.

Application Other examples should be studied, and the terms *Simple* and *Compound* sentences may then be given and applied to still further examples.

(This is more than sufficient for one lesson).

A SECOND OR THIRD LESSON.

Subordinate clause and phrase have been taught in a previous lesson as parts of statements. The clause has been described as (1) a group of words, (2) consisting of a subject and predicate, and (3) having the value of a single part of speech.

Examples

1.||They|had passed Fort Toronto on their way.||

2.||Two British batteries|vainly opposed the Americans a little farther to the east.||

3.||The American army|took five hours to reach Garrison Creek (which then flowed into the mouth of the harbour.)||

4.||The fort (which then stood near Garrison Creek)|is still standing near the foot of Bathurst St.||

Examination of Examples

These sentences should be divided into subject and predicate and the bare subject and verb marked as before. Questioning will lead to the conclusion that each of the four sentences makes *but one statement.*

Each of the last two sentences, however, is found to contain a subordinate group of words consisting of a subject and a predicate, that is, a subordinate clause.

Comparisons

These sentences, then, are like simple sentences in having but one statement, and unlike them in containing a subordinate clause. They are like compound sentences in containing two subjects and two verbs but unlike them in that the clause containing one subject and one predicate is subordinate to the main statement.

Generalization

Further examples should be investigated to make plain these conclusions, and then the new term, complex sentence, should be given.

Application

Examples may now be given containing the three classes of sentences.

The expression, subordinate statement, has been avoided. In dealing with the so-called compound-complex sentences, it seems preferable to call them compound sentences with simple or complex statements. It is deemed advisable to take the compound before the complex sentence.

A. N. S.

Experimental Geography

M. McIVOR
Park School, Toronto

How Stratified Rocks are Formed

IN the class-rooms of many teachers, the last period of the week is devoted to something different from the studies that have occupied the rest of the week. I believe that this is an excellent practice, and, like many others, I used to devote this period to improving the pupils' acquaintance with some of the most interesting works of literature. In order that the period may be one of relaxation and interest it is almost essential that the teacher read the selection and this is the part to which I object. It is all right to read to pupils up to about Sr. II, but above that, I think they ought to be encouraged to read for themselves. As we seldom have a sufficient number of books for supplementary reading to permit of each pupil having a copy, and as faulty reading often destroys interest, I found that, in order to make the period one of real relaxation, it was necessary that I should do the reading myself.

Last September I thought of a new method of winding up the week, and I put this question to may class: "Would you rather that I read to you, or that we perform simple science experiments?" The vote in favour of the experiments was unanimous. As a result of this decision, we have performed many experiments such as the making of oxygen and carbon dioxide, the expansion of solids and liquids, and so on. But the one which was most productive of results, and of which I wish to write now, was an experiment designed, at first, to show how stratified rock was deposited. This would naturally involve the study of the work of rivers, and my first thought was, "How can this best be demonstrated to the class?"

In answer to this question, we took two boards about 6 in. x 12 in., and on one constructed a model of a river basin of ordinary soil, and on the other, one of common salt. By moistening them and baking them afterwards, we got them hard enough for our purpose.

In the class room we had a preliminary talk on the composition of the earth as a whole, dealing very simply with the subject, and we roughly divided the component parts into insoluble matter and soluble salts. We came to the understanding that the matter carried by the rivers was neither purely soluble salts nor insoluble material, but a mixture of both. My reason for separating them in the experiment was

that I wanted a pupil to taste the water after the salt had been run in.

One pupil proceeded to sprinkle water freely on the salt bed, from which it flowed into a beaker. Another reported that the water tasted salty. Rain was now dropped on the river basin of soil, and the pupils could see the deposits carried to the beaker, which represented the sea. Knowing that the water in the beaker contained the soluble mattter which was unseen, as well as the insoluble matter which was seen, we transferred it to a florence flask fitted with a one-holed stopper and a glass tube with a rubber extension leading to a test-tube floating in a milk bottle filled with cold water. While this was boiling, we discussed the effect of the sun's heat as applied to the water from above, and compared it to the effect of the heat of the spirit lamp underneath, and decided that the ultimate effect was the same.

When the solution boiled, we saw that the vapour passed to the test-tube and was condensed, and we noted the cause of the change from vapour back to water. We next examined the water in the test-tube and noted, (1) that it was clear, (no soil), (2) that it tasted absolutely fresh, (no salt). Therefore, the rivers carry deposits which are, (1) left where the rivers deposit them, or (2), left in solution in the sea. The sun draws up the pure water and nothing else.

Now, my primary object was to show how deposits were made at river mouths and on ocean bottoms, but I have found it possible and profitable to refer to this experiment to round off such lessons as, "The Climate East and West of the Rocky Mountains." "Distribution of Rain", "Stratified Rock Formations", "How Fossils Were Deposited", and Tyndall's "Clouds, Rains, and Rivers". (Fourth Reader, p. 262). Incidentally, this experiment is an excellent answer to such questions as, "Why is the sea salty?" Other teachers may see other possible applications of this and similar experiments; I am seeing them every day.

I do not require the pupils to make notes on the experiments, nor do I examine them on the matter dealt with in these periods. The pupils' memories are clear and their deductions correct without the use of notes. By constant reference to observations made, I recall the knowledge gained, and the pupils apply it.

The lesson lasted forty-five minutes, and I consider it one of the best spent periods of the year. The pupils like such lessons, remember what they have seen, and correctly apply the knowledge gained. That, I think, is the true test of all education.

Teacher (to class): "Which is the largest river in Africa?"
Small Boy: "The Nile, sir."
Teacher: "And what are its tributaries called?"
Boy: "Juveniles, sir."

The Picture Study Class

THE SENIOR THIRD FORM, (GRADE VII).

S. W. PERRY
Ontario College of Education

IT is an established practice among boys of the Junior School (9 to 11 years) of the U. T. S. that they collect, trim, and mount art clippings in a No. 2 blank drawing book during the Fall term (Sept.-Dec.). Five pages are assigned to drawings of objects, five pages to decorative design, and five pages to reproductions of masterpieces (paintings, architecture, and sculpture). While these clippings are being assembled, each class is directed in the study (almost exclusively from the viewpoint of art) of some five or six masterpieces. Only such questions are asked as the class might reasonably be expected to answer, or the answers to which should be taught to that particular class. Care is taken in the choice of pictures that they may be suitable in subject and in art interest.

During the second term (Jan.-March) the first fifteen miuntes of each art lesson is devoted to picture study. Three boys in each class receive one week's notice, and each speaks on a picture of his own choice from his own book of clippings. The time limit is two to four minutes. After each speech the teacher corrects or supplements the boy's work by question and answers from the members of the class. A picture is found, large enough for all to see. Frequently a lantern slide is found, or made, to illustrate the boy's address. Not later than the night before he is expected to speak, each boy hands in a note with the following information:—name, class, date, picture chosen, artist. This gives the teacher an opportunity to render assistance by advice as to picture and subject-matter, and to look up a large picture, or lantern slide, for the boy to use before the class.

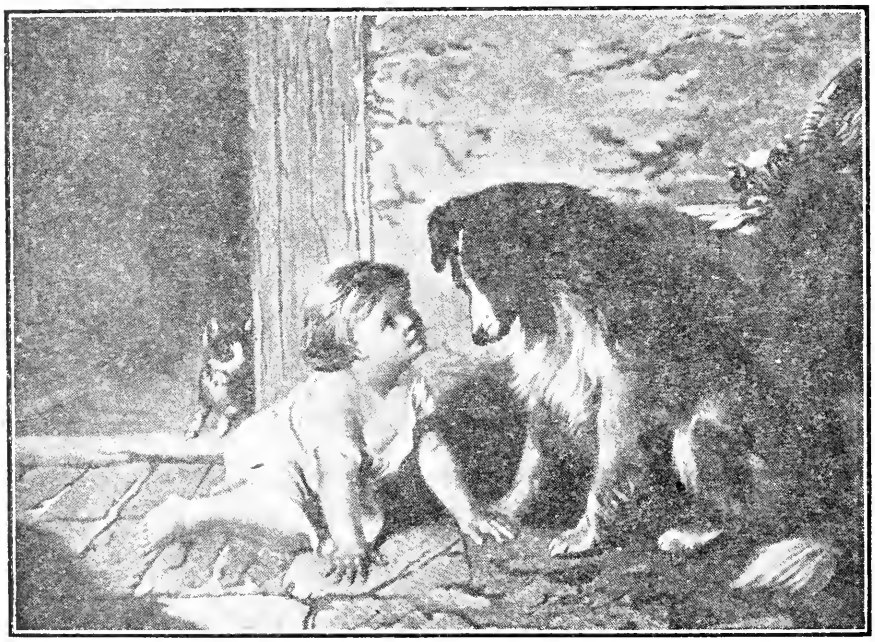
The advantages of this method are obvious. Upwards of thirty pictures are briefly studied by each class each year under the leadership of one of themselves. Each is eager for his turn and as anxious, as he is eager, to do well.

The following addresses were given by three members of the senior third class last week under the direction of a teacher-in-training. The boys were eleven years old. Each handed in a written account of what he was going to say. In the appended speeches, errors in grammar have been corrected, but the language of each boy has been retained. The descriptions were supplemented by the boy pointing out in the picture that about which he was talking.

TEACHER. "Ewart Reid will favour us this morning with an address on the picture which is before you."

BOY. "Mr. Chairman and fellow pupils. This reproduction of a painting by the English artist, Holmes, is not what might be termed a masterpiece in the sense of reputation, that is, it does not rank with the works of certain Italian or Dutch artists, but it might be called a masterpiece in the sense of subject. The beauty and the simplicity of the picture appeal to all of us, and its composition is very interesting.

The eye-level passes a little way above the dog's head. My reasons for thinking this are: First, that it must be above the table to the right



HOLMES. "Can't You Talk!"

of the picture, since we can see the top of it. Second, that any two parallel, horizontal, receding lines meet at the eye-level, and the lines of the tiles on the floor meet at the aforesaid place.

The lighting is from the forward left, because the far side of the baby's face and arms are in shadow. The front part of the dog is lighted while his back is not. The shadow in the lower left corner is cast by the sill of the window through which the light is passing.

The most interesting object, I think, is the baby. Beauty is shown in the many curved lines of his person. Graceful lines mark the contour

of his back, legs, arms, fingers. The baby is also shown to be the most interesting object by the many lines leading to him (points them out). The lines of the dog, door, and tiles lead to the baby. The dog and the cat are looking at him. The baby has a light dress against a darker background, and he is slightly in the foreground.

There are some graceful lines, too, on the dog, but not so many as are on the baby. The whole picture seems to suggest beauty along with the happiness which is depicted on the faces of both dog and baby.

The baby has evidently crept out to the porch on the house and is questioning the dog either with or without words. The cat looks as though it would like to join the group but is too shy. A good name for

MEISSONIER. "The Retreat from Moscow."

the picture might be "The Dumb Conversation." The artist however has chosen differently and has called it "Can't You Talk?", which may have been the baby's question.

TEACHER. "Peter Wright has chosen a somewhat difficult picture. We shall hear from him next."

BOY. "Mr. Chairman and fellow pupils of 3A. This picture has numerous names but is commonly called "The Retreat from Moscow." It was painted by the French artist, Meissonier, who was noted for his war pictures. It is kept in the Louvre gallery, Paris.

The centre of interest is Napoleon, the man on the white horse. His tunic of blue-gray contrasts with the whiteness of the horse and the

dark background. He is also in the foreground and the lines of the picture seem to lead to him (points them out). His clothes are also in contrast with the accoutrements of his attendant marshals.

The eye-level passes about the tail and mouth of the white horse. This causes us to look up to its rider and gives him an air of over-lordship.

W. L. Taylor. "A Father's Counsel."

The defeat of the French is indicated by the gloom of the picture, strengthened by the dark sky, and by monotonous horizontal lines. The attitudes of the generals with Napoleon suggest despair. One has

his arm in a sling, others ride with drooping heads. The soldiers in the background stumble along in the deep snow in great weariness. Only the look on the face of their leader would indicate a determination to win out in spite of snow, and cold, and defeat.

As the picture is painted to represent a real historical scene, perhaps no better title than the one announced can be given. Another name occurs to me as suitable, namely, "A Scene in the Winter of 1813."

This picture gives very good instruction in history and in art."

TEACHER. "The last speaker this morning is Vernon Clarke. As you see, he has a coloured print from which the title has been lost. He will tell us about this picture."

BOY. "Teacher and fellow pupils. This picture is by W. L. Taylor. It was clipped from the Ladies' Home Journal.

The most interesting object in the picture to me is the boy. He stands in the foreground. His white garment against the crimson garment of the man makes him stand out. Some important lines point to him (indicates these).

The eye-level is about the height of the boy's eye. For we can see the top of the ledge along the wall.

The character of the man seems to be firm and kind. The boy is sulky, for he has evidently been detained from play. For we see his bow and arrows.

The light comes from the front, top, and slightly from the left of the picture. This is shown by the shadow of the man and boy on the wall, and by the shadow of the stool on the floor.

Beautiful decorations have been carved on the chair and stool. The embroidery on the garments of the man and of the boy are also very beautiful.

A title for this picture is "A Father's Advice." The man must be king Solomon and the boy, one of his sons. He is saying to the boy My son, be wise and make my heart glad. That is all I have to say."

The Round Table

1. *An intelligence test for teachers?*

Inspector G. K. Powell, Toronto, sends us the following: "I have amused and interested some of my friends by the enclosed arithmetical puzzles. They form very good examples of deductive reasoning. If they interest you and you think they would be of interest to the readers of THE SCHOOL publish them in one of the issues of that valuable magazine. They are in order of difficulty".

In the following examples of simple multiplication and division find for what figures the letters stand. In no two do the letters stand for the same figures.

I. n t i e	II. e n r) e i m i w (e n r	III. i c w
h r a	a r a	n r o
h i s r m	o r	m a o r
n h s n h	There is no remainder at	c m m o
r n t s	the end of this	o o s o
c i r t t c m		o s m r w r

2. *The Teaching of English in England.*

High School Teachers in Ontario will be interested in the recommendations relating to the teaching of English in Secondary Schools, contained in the recent report of the English Departmental Committee, "The Teaching of English in England". The recommendations are:

"That time might be saved in the study both of classics and of modern languages (including English) by the adoption of a uniform grammatical terminology; and in composition by the exacting of a high literary standard in written answers to questions in history, geography, etc.

"That in junior departments, up to the age of twelve, at least one period a day should be devoted to English.

"That the pupil should be made familiar with a body of fine poetry, of value not only for its own sake, but for its uses for comparison and illustration through the later work.

"That during the period fourteen to sixteen the study of English should not be subordinate to that of science or of foreign languages.

"That during the period sixteen to eighteen some study of the growth and development of the English language would be preferable to a course in Old English.

"That in the teaching of literature reference should be made to the other creative arts, in order that the broad principles of criticism may be properly illustrated.

"That care should be taken to insist on the accurate use of the English language by pupils specializing in mathematics or science.

"That a combination of Latin (or Greek) with English and history might well be made permissible as an additional Advanced Course (since sanctioned).

"That the question of admitting English as an optional main subject in any of the Advanced Courses should receive serious consideration.

"That throughout the public schools English literature should be

regarded as entitled to a place in the regular school course, and not be relegated to spare time.

"That the senior teacher of English should be allowed the same powers of direction as are usually given to the senior teacher in mathematics, science, or modern languages.

"That in the teaching of literature the scientific ideal and the ideal of human interest should not be thought of as opposed."

3. *Will you please publish a list of the populations of the cities in Ontario according to the latest census?*

The following list gives the population according to latest returns of the Dominion Census of 1921, of certain cities and towns of Canada having 10,000 or more population. Cities are given even where the population is less than 10,000. There are places of more than 10,000 population not on the list as the census returns for 1921 are not yet complete.

City or Town	Population (1921)
Alberta	
Calgary	63,117
Edmonton	58,627
Lethbridge	11,055
Medicine Hat	9,575
Red Deer	2,323
Wetaskiwin	2,056
British Colombia	
Victoria City	38,775
N. Vancouver	9,987
Manitoba	
Brandon	15,359
Portage la Prairie	6,748
St. Boniface	12,816
Winnipeg	178,364
New Brunswick	
Moncton	13,167
St. John	46,504
Nova Scotia	
Glace Bay	16,992
Halifax	57,674
Sydney city	22,527
Ontario	
Belleville	12,163
Brantford	29,372
Brockville	9,057
Chatham	12,301
Galt	13,210
Guelph	18,019
Kingston	23,096
Kitchener	21,605
Niagara Falls	11,789
London	60,685
Oshawa	11,552
Ottawa	107,137
Peterborough	20,989
Port Arthur	16,134
Sarnia	14,637
Sault Ste. Marie	21,228
St. Catharines	19,664
Stratford	16,064
Toronto	
Windsor	38,541
Woodstock	9,659
North Bay	10,629
P. E. I.	
Charlottetown	12,329
Quebec	
Hull	23,867
Lachine city	15,448
Levis	10,479
Montreal city	607,063
Montreal Island	712,909
Outremont city	12,997
Shawinigan Falls	10,606
Sherbrooke	22,097
St. Hyacinthe	10,852
Three Rivers	22,317
Verdun city	24,888
Westmount city	16,711
Westmount	16,587
Saskatchewan	
Moosejaw	19,175

4. *Where can I get the standard rules for out-of-door games for Public School pupils?*

Mr. J. A. Woodward, Secretary of the Toronto Public Schools Athletic Association, Alexander Muir School, Gladstone Avenue, Toronto, will send rule book for games used in the Toronto schools so long as the supply is available, to any teacher who applies for it.

The New University Entrance Requirements

W. J. DUNLOP, B.A.
Director, University Extension, University of Toronto

READERS of THE SCHOOL may be interested in knowing the circumstances that led to the recent increase in entrance requirements in the Faculties of Arts in Ontario Universities. It often happens that the purpose actuating changes of this kind is misconstrued because the circumstances are misunderstood. It will be found that the changes made recently are really to the great advantage of the average boy or girl coming from the country to a University.

One of the difficulties with which any university has to contend is the fact that there are a good many young people who are more interested in the social than in the academic life of a University. Such students rarely come from country or village homes. The country boy and the country girl come to the university to study and they do study.

Faced with the dilemma which the less earnest type of student produces, faced also with the fact that literally scores of such students fail each year in their examinations, the Universities of Ontario are driven to the necessity of raising their entrance standards. But this has been done solely for the purpose of barring out the student who is too immature or whose previous education is too meagre to enable him to take advantage at his present stage of the work which the University has to offer him.

At a conference of the four Universities—the University of Toronto, Queen's University, McMaster University, and Western University—the following conditions of entrance to the First Year were unanimously agreed upon:

1. Candidates for admission to the Pass Course of the First Year will be required not only to have complete Pass Matriculation, but also to present additional evidence of fitness to profit by attendance on lectures in the University.

2. While each University must determine for itself what additional evidence it will in individual cases deem satisfactory, all the Universities

accept the following qualifications as sufficient evidence to justify admission:

(*a*) Credit (50%) at the Honour Matriculation Examination in two of English, Latin, French, Algebra and Geometry, Greek *or* German *or* Spanish, Physics and Chemistry, OR Biology.

(*b*) At least 75% at the Pass Matriculation Examination in each of any four of the twelve papers required; or at least 66% in each of any six of the twelve papers, with adjustment from time to time as the results of the new organization of the Secondary Schools become more definitely known.

OR

(*c*) Certificate of having completed the course at an Ontario Normal School (in addition, of course, to Pass Matriculation).

3. No University will announce any lower qualifications as acceptable while there may be a general intimation that other evidence may be submitted for consideration and also that candidates of mature years may be admitted without other than Pass Matriculation standing.

4. Attention is drawn to the fact that candidates may be admitted to the Pass Course of the Second Year by presenting certificates of credit obtained at the Honour Matriculation or Upper School Examination.

In brief, then, there are five different avenues for entering the First Year in an Ontario University; first, with two Honour Matriculation subjects in addition to Pass Matriculation; second, with Pass Matriculation including 75% in any four papers; third, with Pass Matriculation including 66% in any six papers; fourth, with a Second Class professional certificate in addition to Pass Matriculation; fifth, as a student of mature years with Pass Matriculation only.

A careful study of the above regulations will show that 2(*b*) was quite obviously adopted so that the small Continuation Schools of the Province will be just as well able to prepare students for the Universities as will the larger High Schools and Collegiate Institutes. This is the answer to any suggestion that the changes might involve increased cost.

Nor do these regulations involve an expenditure of any additional time. The clause already referred to does require that the student work hard enough to secure a really good standing on his year's work. Hence this clause is really aimed at "loafing". Another advantage of this same clause is that, should a student fail to secure the necessary standing at his first attempt, he can continue for another year in the home school.

Clause 2(*c*) exemplifies the purpose of the whole change, viz., that the mature student is sought. A teacher, or one who has completed the work necessary for a Second Class professional certificate, needs nothing in addition to Pass Matriculation except his teacher's certifi-

cate. Hence it is obvious that the mature student is the student that the University wants. Clause 3 is an additional indication of the same desideratum. Undoubtedly the change is in the interests of democracy. It is intended to protect the interests of the youth of the Province by making it worth their while to study hard while they have the opportunity. It involves no additional cost to the average parent, no increase in the length of the course. In brief, this increase in standard is just such a regulation as any sensible parent would make who saw that his children were not studying as well as they should. Any University, no matter how large it may be, welcomes students of the industrious type.

The Teaching of Geometry

PROF. W. J. PATTERSON
Western University, London, Ont.

PART I

NOW that the Department of Education for Ontario has reorganized the high school curriculum of studies, and has authorized radical changes in the customary method of simultaneous instruction in a variety of subjects and in the manner of testing and certifying the efficiency of the student in these subjects, it would seem desirable to enquire more particularly into the reason for the presence of a particular subject on the curriculum, the justification for the prescription of a definite amount of it for each course, and especially into the methods by which the subject may be made a real instrument of education. The main interest of this paper will centre around the third aspect of the general problem stated above.

The office of a critic is never popular and attempts at improvement in educational method are seldom welcomed by either the general public or by teachers themselves. In most cases such attempts call for a more or less complete revision of ones knowledge and habitual modes of thought and speech on the subject to be taught. That is not easy. Indeed it is rather difficult, and one feels a goodly measure of sympathy with the hard-worked teacher who is reluctant to abandon a customary attitude and method in favour of what to him may appear a doubtful experiment. The question he will naturally ask will be "Is it worth while?" The purpose of this paper is to attempt an answer to that question in a reasonable way with reference to the teaching of geometry.

The writer has taught the subject in the high schools to all grades of students and is familiar with the character of the results of the present

methods as revealed by Departmental tests, and, later, by contact with students in the classroom of the university. In view of the manifestly unsatisfactory character of the apparent results, he has often asked himself the question "Is it worth while retaining geometry on the curriculum of either high school or university as far as the average pupil is concerned"? Would not the time devoted to acquiring an apparently useless smattering of geometrical knowledge be more profitably spent on subjects for which the student manifests some aptitude? What is actually happening under existing conditions is that geometry, as a science, is disappearing from both high school and university, not by removal from the curriculum, but by a process of elimination and attenuation which leaves little but a few fragments to be memorized for examination purposes. One is reminded of the day when our forefathers read the newspapers by skipping all the big words and spelling all the little ones.

The vital question is "Can geometry as a science, be taught to the average high school and university student, and can it be made an instrument of mental development and culture to such student?" In my judgment it can. But we must proceed by rational method from the first lesson to the last. Such method presupposes a knowledge on the part of the teacher of the essential nature of the science of geometry.

It is customary among modern mathematicians to speak of geometry as a natural science, by which is presumably meant a science deriving its concepts from nature. It would be nearer the truth perhaps to say, with Kant, that geometry has to do with mathemata, which are characterized by adaptability to *construction* in space. Geometry is therefore the science of construction of certain forms in space. But let us not forget that it is first and always a *science*. No amount of headless construction will *make* a geometer. It is equally true that no amount of memorization of constructions and demonstrations effected by others will make a geometer. The student must construct in harmony with the rule of the concept as he sees it himself, not as another sees it. Merely doing what he is *told* to do is not *doing* it, unless he is constructing his *own concept* by so doing. The ruler, the compass and the square are *his instruments* only in so far as he is aware of the relation of their geometrical properties to his concept while constructing it. For example, a student may draw a straight line through a given point perpendicular to a given straight line a hundred times, by means of a set square, and have learned practically nothing about either a straight line, a right angle or perpendicularity. If he were asked to test the straightness of the edge, the rightness of the angle or the perpendicularity of the arms of the right angle to the set square, in nine cases out of ten he would utterly fail. Why does he fail? To me the reason is

simply that he has been working with tools and words ready made for him, but not with the ideas of which they are visible, or audible representations. How seldom is a high school student able to distinguish between "a vertical line" and "a line perpendicular to another" or, between "plane" and "level". I think the experience of every teacher of geometry in high school and university will bear me out in saying that geometry is, for the average student, particularly girl student, almost, if not quite the least interesting subject on the curriculum.

There must be a reason for this fact. Is the difficulty inherent in the subject; is it in the sex of the student, or, is it in the method of study? I am willing to concede that the successful study of geometry makes special demands upon the intelligence and powers of imagination and concentration of a student, that the usual activities of girl life are not conducive to geometrical thought and seldom call for a practical solution of a problem in space relations, and finally, that there are some of both sexes whom no amount of teaching of the highest order will make even moderately proficient in the subject. But I venture to say, these pupils do not become proficient in any subject of the curriculum. Their failure is due to general incapacity for mental effort rather than to special incapacity for geometrical thought. I am still of the opinion that the vast majority of normal girls and boys can profit very much intellectually by a course in geometry, and that they can pursue it with a goodly measure of interest and pleasure. It seems to me that pupils and teachers alike have been too much influenced by the idea that it is useless to attempt to teach, or to learn, the subject for its own sake.

No secondary interest can compare in dynamic with the interest created and sustained by the application of ideas to the solution of problems. Geometry will be studied with interest and pleasure when we develop it as the science of the application of space ideas to the problems that meet us every day in the world in which we move, the world of space and time. Let us once be seized by the conviction that geometrical ideas are dynamic, that is, that they are essentially active and do things; then things will be done.

Geometrical relations are kinematic as well as static, for example, a point is position only in regard to some other point, the positional relation of one to the other may be fixed and reciprocal, but neither is necessarily absolutely fixed; the direction of a line is fixed in relation to some other line, but neither is absolutely fixed, only relatively fixed A moving point generates a line, a moving line generates a surface. A straight line is completely determined relatively by two points occupying relatively fixed positions on it. A point is determined relatively by two straight lines whose positions are relatively determined. In

this way geometry is seen to be a natural science in the sense that its ideas are applicable to nature and assist us in understanding and interpreting the phenomena of space and time in a world of relatively fixed relations.

In my next paper I shall discuss some of the most important ideas of plane synthetic geometry from the point of view of a beginner in the subject, and endeavour to show how each idea grows out of and is related to one or more correlated ideas. In this way, I believe, geometry will be seen to be not only a science of wonderful coherence and beauty, but also an instrument of marvellous power practically and educationally.

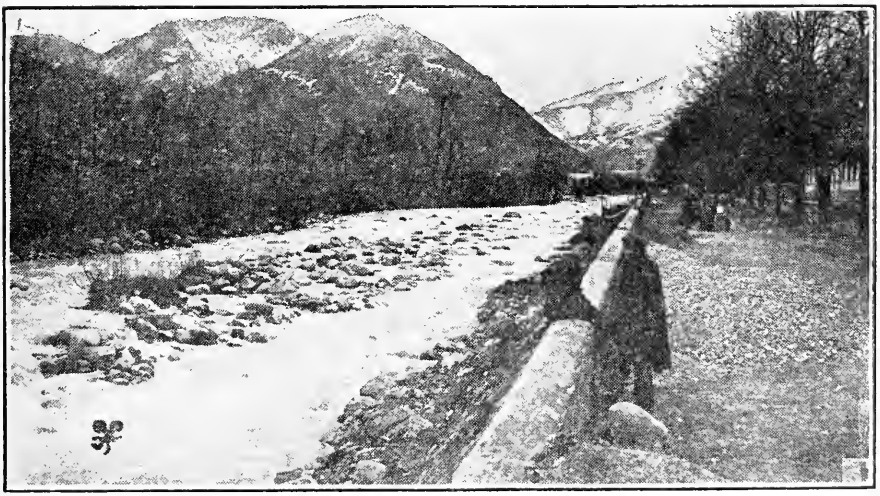
(To be continued).

A Vacation Course in the Pyrenees

HARRIET E. BLACK

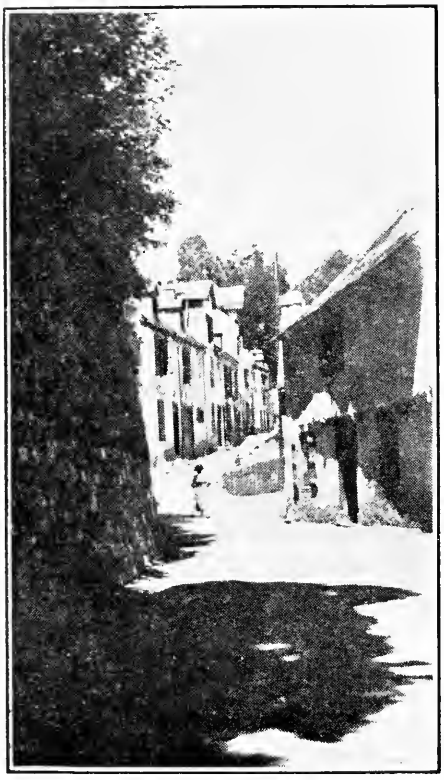
THERE are very few teachers of French who do not dream of a vacation spent in France. There is no better way of learning to know the language, the people and the country than by taking what the French call "Un Cours de Vacances".

A most delightful Vacation Course was offered by the University of Toulouse last year at Bagneres de Bigorre, a summer resort in the Pyrenees. 1921 was the first year of the course and everyone aided M. le



View from the Collège Victor-Duruy. The College is behind the trees.

Maire and the directors to make "Les Etrangers" welcome,—teas, carnivals, dances, pic-nics,—we were completely spoiled. Students were admitted to the baths and the swimming pool at one-third the usual rate, to the Casino at half-price. At the Casino, one heard first-class concerts, saw well-acted plays, danced, and, if one were wicked enough, played baccarat or roulette.



A very old street, Bagnères de Bigorre.

There were no lectures on Wednesday afternoons or Saturdays. On Wednesdays, short walks were arranged for the students. Friends of the professors were invited so that there were always enough French people to go round. The walks near Bagneres are very beautiful, historic and romantic; one was the site of Caesar's camp, another a road favoured by Madame de Maintenon. On Saturdays excursions were planned for mountain climbing or sight-seeing. One began by climbing the baby mountain Le Bedat (2,863 ft.) and ended by the difficult ascent of the snow-topped Pic du Midi (9,350 ft.). Several venturesome young men and women climbed over into Spain. Lourdes, Pau, Luchon Cauterets and Le Cirque de Gavarnie were visited and everywhere one had glorious views of the Pyrenees—misty panoramas—awe-inspiring close-ups —ne never grew weary of them.

Now all that was the background for a thoroughly well-organized course of lectures;-a sketch of French Literature from the Chanson de Roland to Anatole France, Grammar, Classes in Conversation, and the criticism of composition, and then at the end of it all a diploma bearing the seal of the University of Toulouse.

And how much did it cost? Twenty-five of us lived in the College Victor-Duruy. We paid one dollar a day for room and meals. Many Muskoka hotels charge twice as much for far poorer accommodation. Others lived in boarding houses at from $1.50 to $2.50 per day. The

French railway companies give half rates to all students under twenty-eight years of age, making the return fare from Paris $12.00 second class. So you see it is not so very expensive. In fact, if one travels on a one-class boat, the total expense, including two weeks in Paris, need be no more than five hundred dollars.

No one will regret a vacation spent in any part of France, but the friendliness and charm of "Les gens du Midi" and the beauties of the mountains, make of Bagneres an ideal spot to work and play.

Any teacher who would like further information should write to Professor Paul Mieille, 39 Rue des Pyrenees, Tarbes, Hautes Pyrenees, France.

Training for Health and Citizenship

S. B. McCREADY
Organizer, Ontario Junior Red Cross, Toronto

A paragraph of example is better than a page of theorizing. The letter printed below illustrates the method that is advocated by the Ontario Junior Red Cross for training Ontario boys and girls into good health habits and for citizenship. Isn't it a good method? Isn't it better than a book method?

The plan is endorsed by the Department of Education. It is under development in all parts of the world. It has great possibilities for establishing international goodwill through the common service of children.

A Letter from Waterloo County.

R.R. No. 2, Preston, Ont.
January 9, 1922.

Dear Sir:—

Enclosed please find Postal Note for $2.10 for the Ontario Crippled Children's Fund.

The Tiny Tim Christmas Card that you sent us was very nice and we gave it a place on our walls.

We have been having our meetings every Friday afternoon at 1 o'clock. We take up collections at every meeting and each one brings a copper or more if he wishes. We collected altogether, 90 cents in this way. We have had a little Christmas Entertainment by ourselves on the 21st of December. We held an Auxiliary meeting in connection with the entertainment and collected $1.28. Some of the money we are going to send to the United States to buy some Health Dialogues and then give a concert later on in the year.

We have kept a record of the height and weight of the boys and girls and only two came below the average weight. The subject of Personal Hygiene has been taken up by two members at every meeting, dealing with the care of hands, nails and teeth. We have a Roll Call and each one present answers by giving a little proverb. There w
that missed any of our meetings.

Also one member gives a speech on some Hygiene topic. I will tell you some speeches we had: The Care of the Body; A Stitch in Time Saves Nine; Pure and Impure Milk; Deaf, Dumb and Blind, Helen Keller; Tobacco; Pure and Impure Water; Exercise and Sleep; Teeth and Digestion.

We are enclosing the Application Form showing the members of this year's Junior Red Cross Auxiliary. We are all glad that we could give our money for some useful purpose to help the sick and crippled children.

Yours sincerely,
Lila Habermehl,
Secretary, The Head, Heart, Hand and Health (4H) Club
S.S. No. 17, Waterloo Tp.

Supplementary Reading Lists

PROFESSOR G. M. JONES, B.A.
Ontario College of Education

(*Continued from February issue*).

HISTORY AND BIOGRAPHY

Author	*Book*	*Times listed*
Aitken	Canada in Flanders	7
Aldrich	A Hilltop on the Marne	2
Bacon	Henry Hudson	3
Baikie	Peeps at the Royal Navy	3
Baldwin	Story of Roland	2
Bell	Canada in War Paint	2
Bishop	Winged Warfare	2
Black	Goldsmith	2
Bolton	Girls Who Became Famous	3
Bradley	Wolfe	7
Buchan	Nelson's History of the War	2
Butler	Gordon	3
Cable	Between the Lines	5
	Action Front	4

Author	*Book*	*Times listed*
Chronicles of Canada Series	Any Volume	2
	Wolfe	2
	Montcalm	2
	Brock	2
Church	Story of the Odyssey	6
	Story of the Iliad	6
Cox	The Crusades	2
Cumberland	The Story of the Union Jack	3
Curtis	The True Abraham Lincoln	2
Davis	With the Allies	2
Dilnot	David Lloyd George	2
Edgar	The Romance of Canadian History	3
Empey	Over the Top	2
Fitchett	Deeds that Won the Empire	9
	Fights for the Flag	7
	Tales of the Great Mutiny	4
	Nelson and His Captains	2
Forbes	Havelock	3
Franklin	Autobiography	4
Froude	English Seamen in the 16th Century	2
Gardiner	Life of Oliver Cromwell	2
Gibbs	Founders of the Empire	3
	Now it Can be Told	2
Gurd	Tecumseh	2
Hall	Kitchener's Mob	4
Herrington	Heroines of Canadian History	3
Hoydon	Riders of the Plain	2
Hughes	Livingstone	5
Hutton	Life of Scott	2
Irving	Life of Columbus	3
Keller	The Story of My Life	3
Kingsley	Greek Heroes	8
Kipling	Sea Warfare	2
Lang	The True Story Book	2
Laut	Pathfinders of the West	8
	Canada the Empire of the North	3
	Vikings of the Pacific	2
	The Adventurers of England	2
Locke	When Canada was New France	3
Mabie	Heroes Every Child Should Know	3
Mabie	Heroines Every Child Should Know	3
	Myths Every Child Should Know	2
Macaulay	Warren Hastings	3
	Clive	3
	History of England Chap. 3	3
Makers of Canada Series	Any volume	2
Mark Twain	Joan of Arc	2
Marquis	Stories from Camadian History	2
Marsh	Where the Buffalo Roamed	2
Masefield	Gallipoli	2
Miller	Brief Biographies from Canadian History	3
Meadow-Craft	Boy's Life of Edison	2
Morris	English Historical Tales	3
Nelson (Pub.)	Highroads of History	2
Nursey	Isaac Brock	6
Palmer	My First Year of the Great War	2
Parkman	Any volume	3
	Oregon Trail	5
	Montcalm and Wolfe	4
	Jesuits in North America	3
	Old Regime in Canada	3
	Fontenac and New France	2
	Conspiracy of Pontiac	2
Plutarch	Life of Caesar	2
Pratt	Pizarro, The Conquest of Peru	2
Richards	Florence Nightingale	3
Roberts	History of Canada	2
Southey	Life of Nelson	11
Strang	The Great Fight for Canada	3
Tappan	In the Days of Alfred the Great	3
	In the Days of William the Conqueror	4
	In the Days of Queen Elizabeth	3
Thomas	Celtic Stories	2
Tooley	Life of Florence Nightingale	3
Towle	Drake, The Sea-King of Devon	2

Author	*Book*	*Times listed*
Towle	Raleigh, His Exploits and Voyages	2
Washington	Up from Slavery	6
Wetherell	Fields of Fame in England and Scotland	2
Wood	The Winning of New Canada	2
	Life of Tecumseh	2
Yonge	Book of Golden Deeds	4

SCIENCE AND NATURE STUDY

Allen	In Nature's Workshop	4
	Flashlights on Nature	4
Baker	Boy's Book of Inventions	2
Ball	Starland	2
Baskett	Story of the Fishes	2
Blanchan	Birds Every Child Should Know	2
	Bird Neighbours	2
Buckley	The Fairyland of Science	12
	Through Magic Glasses	2
Bullen	Creatures of the Deep	2
Burroughs	Any Volume	2
	Birds and Bees	9
	Wake Robin	8
	Sharp Eyes	8
	Locusts and Wild Honey	6
	Winter Sunshine	3
	Pepacton	2
	Birds and Poets	2
Collins	The Changeful Earth	2
Fabre	The Story Book of Science	4
	Life of the Spider	2
	Insect Adventures	2
Fournier	Wonders of Physical Science	3
Fraser	Mooswa	5
Gibson	Eye-Spy	3
Hale	Stories of Invention	2
Holden	Real Things in Nature	2
Ingersoll	Wild Neighbours	5
Kingsley	Madame How and Lady Why	3
Long	Ways of the Wood Folk	7
	School of the Woods	5
	Wilderness Ways	4
	Beasts of the Field	4
	A Little Brother to the Bear	2
Maeterlinck	Life of the Bee	2
Miller	The First Book of Birds	2

TRAVEL AND EXPLORATION

Brassey	Around the World in the Yacht Sunbeam	5
Bullen	The Cruise of the Cachelot	9
Cameron	The Great New North	3
Cook	Voyages of Discovery	3
Duncan	Dr. Grenfell's Parish	5
Grenfell	Adrift on an Ice-Pan	2
	Harvest of the Sea	4
Grierson	The Children's Book of Edinburgh	2
Hubbard	A Woman's Way Through Lonely Labrador	3
Marco Polo	Travels	4
Mitton	The Children's Book of London	2
Peeps at Many Lands Series		
	India	2
	Australia	2
Stevenson	Across the Plains	3
	Travels with a Donkey	3
	An Inland Voyage	3
Taylor	Views Afoot Through Europe	2
Wallace	Lure of the Labrador Wild	9
	The Long Labrador Trail	2
Wiggin	Penelope's Progress	2
	Penelope's English Experience	2
	Penelope's Irish Expreience	2
Yan Phou Lee	When I Was a Boy in China	2

(A list for the Middle School will appear next month)

Book Notices

(Mention in this column does not preclude review elsewhere.)

Midsummer: A Story for Boys and Girls, by Katharine Adams. Cloth, 241 pages. Price $1.75. Toronto, The Macmillan Co. of Canada, Ltd.

Mary in New Mexico, by Constance Johnson. Cloth, 209 pages. Price $1.75. Toronto, The Macmillan Co. of Canada, Ltd.

Gray Wolf Stories, Indian Mystery Tales, by Bernard Sexton. Cloth, 192 pages. Price $2.00. Toronto, The Macmillan Co. of Canada, Ltd.

Body and Soul (a play in seven scenes) by Elizabeth H. Marsh. Cloth, 88 pages. Price $1.50. Boston, The Cornhill Co.

Poets and Prose Writers of Canada. Paper, 20 pages. Toronto, the Grolier Society. This is an attractive reprint in pamphlet form of an article in *The Book of Knowledge.*

Balzac, Five Short Stories, edited by Arthur Tilley. Cloth, 170 pages. Price 5/6. Cambridge University Press. This is an attractive collection of Balzac stories in the original French.

Social Life in England to 1500, by Elizabeth H. Devas. For Junior Forms. 95 pages. Price 2/6. London, Eng. Methuen & Co., 36 Essex St. W.C.2. Very useful for public school classes.

In Many Lands, Book III, England and Wales, Book IV, The British Isles, by Samuel Gibson. Cloth, 168 and 176 pages. Price 2/4 each. London, G. Bell & Sons, Ltd. These are beautifully illustrated books of travel for children.

The Kingsway Series of Composition Books, Book III, by Robert Finch. Paper, 80 pages. Price 9*d.* net. London, Evans Bros., Ltd. This is the third volume of a series of six.

Methuen's First French Book, by Edith C. Stent, 1921. 125 pages. Price 3/. London, Eng. Methuen & Co., 36 Essex St., W.C.2.

French Verb Conjugation. A. Watson Bain. 55 pages. Price 2/6. London, Methuen & Co., 36 Essex St. W.C.2. 1921.

Spanish Passages for Unseen Translation. From Modern Authors. Selected and arranged by H. C. L. Balshaw. Methuen & Co., 36 Essex St. W.C.2, 1921.

Simple Lessons on the Weather. E. Stonehouse. 135 pages. Twelve plates and 62 other illustrations. Price 4/. London, Eng. Methuen & Co., 36 Essex St. W.C.2, 1921.

Mon Petit Livre Français, by Clara S. Dolton. Illustrated by D. M. Payne. Cloth, 86 pages. Price 65c. New York, Longmans, Green & Co. This is a French primer intended for children who have passed from the kindergarten. Phonetics are used to get a correct pronunciation. Most of the instructions are in French. The illustrations are appropriate and very useful.

Moliere's L'Avare, edited with introduction and notes by A. T. Baker, Ph.D. Cloth, LXXXVI+119 pages. Price $1.00. New York, Longmans, Green & Co.

Plane Geometry, Practical and Theoretical. Vols. I and II, by V. Le Neve Foster, M.A. Limp cloth, 430 pages. Price 3/ each. London, G. Bell & Sons, Ltd.

Philip's Model Geography, The British Empire. Eighth edition revised. Stiff paper, 96 pages. Price 1/. London, George Philip & Son, Ltd.

Art and Education in Wood Turning, by William W. Klenke. Cloth, 110 pages, profusely illustrated. Price $1.40. Peorca, Ill., The Manual Arts Press.

Alexander Dewey Arithmetic, by G. Alexander. Two vols., elementary and advanced. Cloth, XIII+224 and XVI+288 pages. New York, Longmans, Green & Co.

Measurement of Silent Reading, by M. A. Burgess. Cloth, 163 pages. New York, Russel Sage Foundation.

The Joy of Mountains, by William Platt. London, G. Bell & Sons, 1921. 80 pages. Price 1/9. A delightfully written and well-illustrated booklet on mountains and mountain climbing. Covers the earth from the Himalayas to the Andes, and from Switzerland to Scotland. P. S.

The Piers Plowman Social and Economic Histories, Vol. VI, by E. H. Spalding, M.A. Cloth, 224 pages, illustrated. Price 3/6. London, George Philip & Son, Ltd. This latest volume of a well known series traces the social and economic history of Great Britain from 1760 to 1830.

Visual Nature Study. By Agnes Nightingale. 47 pages. Published by A. & C. Black, London. Price, one shilling. This is a series of very elementary lessons on common animals. There are many excellent sketches of the animals studied. These sketches are to be coloured by the pupils. G. A. C.

How to Have Bird Neighbours. By S. Louise Patteson. 131 pages. Published by D. C. Heath & Co. This well-illustrated book contains an account of the author's experience in endeavouring to attract birds. The stories are well told and should be enjoyed by the boys and girls of our public schools.

As You Like It, Macbeth, Twelfth Night, edited by G. H. Cowling. Limp cloth, 143 pages, 136 pages, and 127 pages. Price of each book 1/6. London, Messrs. Methuen & Co., Ltd., 1921. Each text has an introduction and brief annotations.

Figure Construction, by Alon Bement. Cloth, 124 pages. New York, The Gregg Publishing Co., 1921. A brief treatise on drawing the human figure, for art students, costume designers and teachers. Beautifully illustrated in black and white.

Bartholomew's General Map of Europe. Price 1/ net. Edinburgh, John Bartholomew & Son, Ltd., 1921. A folding map 22×32 inches showing the new boundaries, and containing an inset showing Europe in 1914.

Book Reviews

Modern Times and the Living Past, by Henry W. Elson, A.M., Litt.D. Cloth, XXXVIII+727 pages, illustrated. New York, American Book Co. President Elson devotes one chapter to prehistoric man, two to Oriental peoples, five to ancient Greece, six to ancient Rome, two to the Teutonic peoples, three to the rise of nations during the Middle Ages, five to the Period of the Reformation, two to the Old Regime, six to the French Revolution, nine to the Progress of Democracy and four to the World War. It is a question of what is to be omitted in the great sweep he attempts to make, rather than what is to be dwelt upon as in some of the older histories. The book is a useful summary. The "World Chronology" at the end is a very practical table. The book is along the lines of the newer angles from which history is to be regarded, and will find its place in many curricula. There are useful Questions and Topics, and hints for further reading which cannot but prove helpful.

L. E. H.

What is Science? by Norman Campbell. Cloth, 186 pages. London, Methuen & Co., Ltd. Price 5/. Professor Campbell, an able author and an able scientist, presents in this volume the philosophical aspects of science that the practical experimenter is too likely to ignore. The titles of the chapters sufficiently define the scope of the book. They are: Two Aspects of Science, Science and Nature, The Laws of Science, the Discovery of Laws, the Explanation of Laws, Measurement, the Applications of Science. The book is well within the comprehension of any teacher of science. G. A. C.

Geography, Physical, Economic, Regional, by James F. Chamberlain. Cloth, 509 pages. Philadelphia, J. B. Lippincott, Co. This book is a good illustration of the course in geography which is being taught in the American schools at the present time. A foundation in physical geography is followed by economic and regional geography. As the two latter are largely determined by the former it is good pedagogy to put the physical, or general geography first. The illustrations are excellent. The part devoted to regional geography treats of the United States and its dependencies alone. G. A. C.

Advanced Lessons in Everyday English, by Emma Miller Bolenius. Cloth, 414 pages. New York, American Book Co. This new composition-grammar contains work for the two years of the upper elementary grades. It embodies many of the features most discussed in recent years. All lessons are put in the form of projects. For many of the exercises the socialised recitation is recommended. Individual differences in pupils are recognized and frequently provided for in the assignments. Community interests are woven into the language work. There is a wide variety of illustrative models. Grammar is interwoven with composition. This book is well worth careful examination by teachers and administrators. G.M.J.

Source Book for the Economic Geography of North America, by Charles C. Colby. Cloth, 417 pages. University of Chicago Press. There is a strong tendency to make geography a subject, not to be read out of a text-book, but to be worked out through the solution of problems or projects by the pupil. Then the text-book becomes a source of information to be consulted as an aid in working the problems. The book under review is of this character. It consists entirely of extracts taken from original sources and dealing with most of the important topics in the geography of North America, which interest pupils. As a piece of apparatus for use in the geographical laboratory it can be highly recommended. Sir Frederick Stupart is called Stuart. The extract on Canadian Railways, which was written in 1913, is hopelessly out of date.

G. A. C.

Canada as an Actual Democracy, by James Bryce (Viscount Bryce). Cloth, 54 pages. Price $1.00. Toronto, The Macmillan Co. of Canada, Ltd. This small volume is a reprint in convenient form of the chapter on Canada in Viscount Bryce's recent work, "Modern Democracies". The publishers have done a real service to teachers in making possible a very wide distribution of this discussion of Canadian democracy. To view one's country through the eyes of such a trained and statesmanlike observer as James Bryce is a rare privilege. The picture he presents is a fine corrective to undue national self-esteem. The author not only understands and describes our good points, but sees our national weaknesses. His picture is faithfully drawn, and is illuminating to both the stranger and the native Canadian. G. M. J.

Notes and News

Ontario

From the Ontario Public School Men Teachers' Federation

H. A. HALBERT, B.A.

The officers and organizers of the Ontario Public School Men Teachers' Federation are as follows: President—J. A. Short, Swansea; Vice-President—Capt. Alex. Firth, Orangeville; Past President—Martin Kerr, B.A., Hamilton; Secretary-Treasurer—H. A. Halbert, B.A., Toronto. Committee: District 1—D. S. Kemp, Ottawa; District 2—R. F. Downey, B.A., Peterborough; District 3—Ed. Shear, Allandale; District 4—C. E. Kelly, Hamilton; District 5—W. E. Foster, Brantford; District 6—W. J. Snelgrove, London; District 7—John A. Graham, Durham; District 8—H. J. Vallentine, B.A., Toronto; District 9—A. E. Bryson, Cobalt; District 10—J. A. Underhill, Fort William.

The Secretary of the Association will be glad to receive from any of the members notes and news of interest to teachers for publication in this column. Such items should reach him before the 10th of each month. This will supply a much felt need for a medium for keeping our members in touch with current movements and points of interest.

There have been many developments during the past year with which all Ontario teachers should be acquainted. At present a movement is in progress to establish a plan of insurance for the teachers of the province. In Toronto a Group Insurance Plan is already in operation. As yet only the men teachers are benefitting. The Insurance Companies demand seventy-five per cent. of any group of teachers before they will grant cheap insurance without medical examination. If a scheme can be promoted by which the insurance scheme could be made provincial and take in all teachers in the province, the benefits would be great. Various ways of providing for the payment of the premiums have been suggested. In England the amount of premiums is deducted by the Board of Education from the school grants and the local authorities, consequently, deduct the required amount from the salaries of teachers.

The central executive of the Federation feel the need of a much stronger organization for the province. Provision has been made in the constitution for local councils for every inspectorate. At present many inspectoral divisions have organized with the result that the membership from those districts is approximately one hundred per cent. In many parts of the province there is little or no organzation and consequently the whole scheme of federation is not as strong as it should be. It is a well-known fact that a chain is no stronger than its weakest link. In the other professions organization is much stronger than among teachers. If we wish to place our profession on its proper social basis, much must yet be done.

Quebec

Thirty-three students were admitted to the second short course elementary class on February 1st, at Macdonald College. Of these, only thirty-one have registered to date. The two remaining students are prevented from attending at present on account of illness. Four additional students were admitted for the term after Christmas in the Intermediate Class.

A summer school in Drawing is being planned this summer at Macdonald College, for teachers in the Province of Quebec who desire further instruction in this subject. Full particulars will be available in a short time.

In addition to the regular summer school for French specialists in the Province of Quebec, there will be a summer school at McGill University in French. It is hoped in time to have this summer school a real French centre for all students and teachers in North America. Montreal is an ideal site for such a school, as it is a natural home of French culture in North America, and students will have the advantage of French newspapers, French theatres and a general French environment.

Saskatchewan

During the past two years, the interest throughout the Non-English districts of Saskatchewan in the matter of night schools has been most marked—almost phenomenal. This growth has been largely due to

the fact that a government grant of $2 per evening session is paid. In most cases this grant is handed over to the teacher as additional remuneration for this extra work. The only expense to the district is the cost of heat and light. In some cases the students pay for these. As an example of what is being done in this connection, the case of Zalischyky School District near Wakaw might be cited. Here the teacher was engaged from October 12, 1921, for a period of one year at a salary of $1,300. In addition to this, the board entered into another agreement with her to conduct a night school five evenings a week, from 6.30 to 9 p.m., for which they agreed to pay her $30 per month for the ensuing five months—from November 10, 1921, to April 10, 1922. The people in this district are Ukrainian, and upwards of forty adults will attend the evening classes.

There were practically no night schools in operation during the year 1918. In the fall of 1919, when a grant of $1 per evening session was paid, nine schools with an enrolment of 234 were in operation, the grants paid amounting to $341.95. In the second term of 1919, thirteen night schools operated with an enrolment of 264 and the grant paid totalled $452.00. During the first term of 1920, when the grant was raised to $2 per session, fifty-one night schools were conducted with 1202 enrolled. Twenty-three more opened during the fall term with an enrolment of 628, making a total enrolment of 1,830 for the year 1920, the total grants paid being $3,772.00. Up to October 18, 1921, 51 schools have reported with an enrolment of 1,125, and grants amounting to $3,882.37 have been distributed.

Thus it will be seen that during 1919, 1920 and up to October, 1921, there have been nearly 4,000 adults in attendance at night classes—mostly in the rural schools. The percentage of enrolment increase in 1920 over 1919 was 287.5, and there was an increase of 37.5 per cent. in the amount of grants paid.

In addition to the regular school work with emphasis on the elementary subjects and the teaching of the English language—efforts are being put forth to give the newer citizens a knowledge of our country, and our national ideals; the urgent necessity of every foreign-born man and woman becoming familiar with every phase of Canadian public life is stressed at all times.

The School

"Recti cultus pectora roborant"

Editorial Notes

Graduate Studies in Education

The founders of the Ontario College of Education believed that there was in Canada a distinct need and a sufficient demand for facilities for advanced studies in education. The outcome has more than justified their hopes. The enrolment in graduate courses in education has now reached a total of 272, drawn from all the provinces of Canada. Last summer 72 graduate students attended the five weeks' summer session in education. Graduate courses are also given in classes attending the regular sessions throughout the year.

As the facilities for graduate work in education have increased, the standards and courses of study have been steadily improved. Under regulations adopted last year the extra-mural courses disappear. Attendance either at a summer session or during the regular session is now required in all subjects on which examinations are taken. Under the new regulations, moreover, only one subject a year may be taken by a graduate student. That more adequate work can be done under these circumstances is obvious. For this reason, if for no other, it is certain that in the long run the new courses will give greater satisfaction. They will be carried, too, at much less strain, particularly to those students who are not able to give all their time during the year to university studies.

That the expense to the student outside the city of Toronto will be somewhat greater is obvious and to be regretted. Perhaps the Departments of Education in the various provinces, which have in the past shown a hearty sympathy with the cause of advanced studies in education, might let their encouragement take the practical form of allowing $200 or $250 a year by way of bursary or scholarship to those teachers or administrators of their own province who take graduate work in summer sessions. The Province of Ontario has shown a praiseworthy example by establishing a number of scholarships of not less than $500 each to encourage advanced studies in education in the Ontario College of Education. From the Western provinces of Canada particularly, where the student must add considerable railway fare to

his other expenses, scholarship grants or other grants in aid would be particularly appropriate. The greater the investment in education and the greater the annual expenditure, the more necessary it becomes that those charged with its administration either in classroom or in office should have opportunities to learn and to study the best that has been thought and done by others in their field.

The Reunion

The annual reunion of former students of the Faculty of Education of the University of Toronto and of the College of Education will be held at the College of Education and at Hart House during the meetings of the O.E.A. in Easter week. An announcement is made elsewhere in this issue. This annual dinner and reunion is now an outstanding feature in the programme of the teacher who comes up to the big Easter convention. Hart House offers generous accommodation. It is hoped that the attendance this year will break last year's record, as that of last year broke all previous records. As the main object of the Reunion is to give opportunity for renewing old acquaintance, it is especially a case where numbers count. Don't stay away because you fear that there may not be many others of your year there. If you come, there will be at least one and if others follow your example, there may be a generous representation. But show a good example. A record-breaking attendance is made up of individual teachers who resolve to be there.

"In Corpore Sano"

The importance of good health both to pupil and to teacher is coming more and more to be adequately recognized. The undernourished child wastes much of the efforts he finds it so hard to make. The overstrained teacher is worried by trifles, sees everything in wrong perspective and makes mountains out of molehills. Difficulties of what is sometimes called discipline tend to multiply when pupils sit too long without relaxation. Five minutes' relaxation, a little brisk motion in the fresh air, a well-ventilated schoolroom, proper nourishment, these things make a greater difference than the inexperienced teacher is likely to recognize.

An interesting experiment in the health of school children is described by Mr. W. F. Kirk elsewhere in this issue. Testimony from all sources assures us of the benefit derived by undernourished children in the city schools from that half pint of milk given at the morning recess. Over 7,000 pupils in Toronto schools this year received the milk ration, thanks to the efforts of the Home and School Council, which used its available funds where parents were not able to pay either in whole or in part. From rural school districts comes similar testimony to the value of the hot lunch for pupils from a distance who must eat their noon meal at the school.

In the care of the pupil's health, teacher and parent can co-operate. The importance of physical training and exercise, especially in the open air, must be recognized, both during school hours and "after four". Lesson assignments should be watched, particularly where, as in a high school, several teachers assign home work, and the parent should see to it that the proper share of out-of-school time is spent in open-air exercise and in sleep. It is no small count against the "movie" that it offers young people mental excitement without effort or response during the hours that should be spent in the open air, or in sleep.

A recent circular issued by the Ontario Department of Education points out that, when thinking of the economic side of the problem of the health of school children, "it is necessary to bear in mind the enormous annual waste of money, due to the non-attendance and lack of progress of those handicapped by below-normal health. The statement that sickness directly or indirectly is responsible for 75% of the absence from school in this Province, adds another very material reason why a concerted effort should be made to raise the health standards of the children of school and pre-school age. A great deal can undoubtedly be accomplished in the solution of this problem by a reasonably efficient system of School Health Supervision."

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Observational Study of Twigs and Buds

Introductory instructions.—Secure twigs, each about eight inches long, of horse-chestnut, apple, cherry (orchard variety) and peach. Figs. 1-4 will guide in making the selection. A twig of each of the above kinds should be set in a jar of water and kept in a warm room for two or three weeks previous to the lessons. The buds will then be sufficiently developed to be useful in interpreting points that cannot be clearly discerned in the undeveloped specimens.

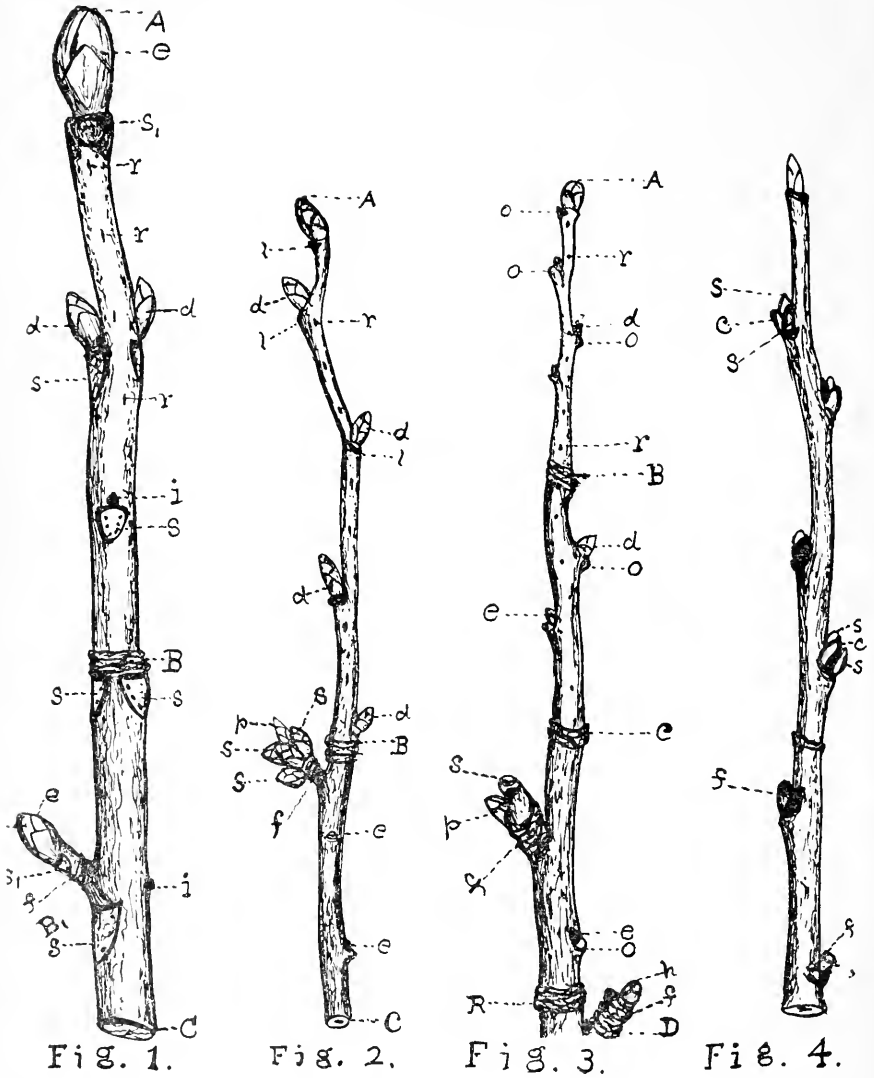
Lesson I: The Horse-chestnut Twig

It is advisable to begin the series of lessons with the study of the twig and bud of the horse-chestnut because here the parts are so large that the beginner can readily distinguish them.

The plan of lesson given below for the apple twig is suitable for the lesson on the horse-chestnut and the following points should be observed:

(NOTE.—The references are to Fig, 1 and are intended for an aid to the teacher.)

The part AB is last season's growth. The part BC is the growth of two seasons ago. The ring marks at B were caused by the scales of



the end bud. This bud grew to form AB. The branch "f" is a short branch that grew last season. At B_1 are the rings caused by the scales of a bud. This bud grew to become "f". Buds marked "ee" are end buds. Those marked "d, d" and "i, i" are side buds. The two latter

are dormant. Underneath each bud is a horse-shoe shaped scar (s, s, s, s). Each is a leaf scar.

The leaves were in opposite. Each pair stood at right angles to the neighbouring pair. A twist in the part BC obscures this alternation of direction. Points marked "S_1, S" are leaf scars below the terminal buds (c, c); "r, r, r, r" are breathing pores. The buds are covered with overlapping scales that are coated with wax, a protection against cold, wind and rain. The largest buds are those at or near the ends of the twig or its branches. The buds on the twig that has been kept in water in a warm room have grown. The scales are bursting off, showing the origin of the rings at B. Certain buds in this specimen are found to contain flowers and leaves, while others contain leaves only. Describe the location of each kind.

Lesson II: The Apple Twig

A Detailed Plan for a Lesson on the Apple Twig and Bud

Materials.—See introductory instructions. A twig is given to each pupil. The developed specimen is ready for class observation.

Introduction.—What fruit is grown in greatest quantity in Ontario? Is it important that there should be a good crop of apples this year? Give your reasons. Is there any way of finding out at this time of year whether the apple crop is likely to be good?

Aim.—Let us study these twigs to learn what they can tell us of the possibilities of the apple crop.

(Note.—The references are to Fig. 3 and are intended for an aid to the teacher.)

Matter	*Method*
AB is last season's growth. BC is one year older than AB. CD is two years older than AB.	Is your twig all of one colour? Is it all of the same smoothness of bark? Try to account for the differences.
	What is found at the point of separation of the growths of two seasons?
The rings at B and C were caused by the scales of end buds.	Examine the specimen that has been developed in the warm room. Observe the loosening of the bud scales and the ring-shaped marks caused by their attachment. The pupils can now see the cause of the rings on their twigs.
	Is the bark bright and of smooth unbroken surface?

Matter	*Method*
Bright bark and smooth surface show freedom from injury by frost.	What does this indicate as to the health of the tree and also as to the probability of an apple crop.
Buds and leaf scars (o, o, o, o). Short rough branches (f, f). Breathing pores (r, r). Scars caused by apple stems (s).	What objects or marks are found on the twig. The pupils are guided by the teacher to discover these and to decide what each is.
There are end buds and side buds. Each bud is above a leaf scar.	Describe the positions of the buds. What is found below each bud?
The largest buds grow on or near the end of the twig. Dormant buds grow in shaded parts as on the under surface.	Compare the sizes of the buds. Where are the largest situated? Where are the dormant buds? Describe the position of the twig on the tree. (After observation of the tree). Which buds receive the most sunshine and air?
Fruit spurs are short rough branches marked with rings and scars (f). The fruits grow on the ends of the spurs (s). A bud (p) just below the fruit causes new growth of spur.	Describe the branches on which scars caused by the fruit are found. Teacher gives name "fruit spur". Are these buds on the end of the spur? Near the end?
The larger grow at the ends of fruit spurs (h). These are flower buds, also called *fruit buds*. The smaller are leaf buds.	Are all the buds of the same shape? To answer this examine the developed specimen. Where are the larger and plumper buds? Open these and carefully examine the components. What do the smaller contain?
Many flower buds are in good condition hence favourable for apple crop.	Are the buds in a healthy condition or are they dry and powdery? The latter condition indicates frost injury? Are there many flower buds? What are the possibilities of apple crops?
	Does it take much food to nourish an apple? Does this account for the fact that the spur is usually short?

Problems for Observation Work in the Orchard

1. (*a*) Are the fruit buds and blossoms always at the ends of fruit spurs? Are there leaves as well as blossoms in these buds?

(*b*) Do the side buds of the spurs produce leaves and stem growths only?

2. Answer questions "1 *a*" and "1 *b*" from a study of the pear tree. Account for the zigzag shape of pear fruit spurs.
3. How many blossoms are contained in each fruit bud of the apple tree?
4. How many apples grow from each fruit bud of the apple tree? Try to discover the fates of the others.
5. After the apple tree is in full leaf find dormant buds and try to account for their remaining so.
6. Pluck all the leaves off a very young tree and examine the dormant buds on the tree from time to time during the next month. . (A maple or any other tree will do.)

Lesson III: The Twig of the Cherry Tree

The same general plan of lesson may be used for the study of the cherry twig as was used in the lesson on the apple twig.

By means of comparisons with the similar points of the apple twig the lesson may be simplified as this will permit the pupils to make use of what they learned in the earlier lesson. The references are to Fig. 2.

The following points may be dealt with:

The division into annual growths (AB, BC).

The rings of scale scars separating the growth (B).

The buds and leaf scars (l, l, l).

The buds include end buds and side buds.

Some of the buds are dormant (e, e).

The larger buds are at or near the ends of twigs or branches of twigs (A d).

The short fruit spurs (f) are straight.

There is a cluster of several buds on a fruit spur.

The buds of this cluster are of two kinds.

(*a*) A slender bud (p) at the exact tip of the spur.

(*b*) Stouter buds (s, s, s) surrounding p.

NOTES.—A study of the twig that has been set for development will show that the plumper buds (s, s, s) are fruit buds while the end bud (p) is the leaf bud. Why are the spurs short? Why straight?

Determine the number and the condition of the fruit buds and the number of blossoms in each bud. (The developed specimen should be examined here.) From these investigations decide upon the probabilities at the present date of a good cherry crop. Why should pickers avoid breaking off the short stalks (spurs) on which the clusters of cherries grow? The twigs, buds and spurs of the plum are similar in many respects to those of the cherry.

Lesson IV: The Twig of the Peach Tree

Using the same general plan of lesson as that for the apple twig, take up the study of the peach twig by observation. The references are to Fig. 4.

Points will be found quite similar to those taken in the case of the apple and cherry, but with the following important differences:

(*a*) The buds of a vigorous peach twig are in three (s, c, s). The centre bud (c) of the trio is somewhat more slender than the other two. It is the leaf and wood-producing bud. Its two companion buds (s, s) are fruit buds.

Certain varieties of peach trees have the buds characteristically single and in the case of improperly pruned trees of all varieties, the buds are frequently single. The triple form, which can be induced in nearly all varieties by severe pruning, is preferable as it ensures with the least possible tree top a satisfactory yield of fruit with sufficient foliage to nourish it.

(*b*) Upon the two year and older wood of the peach trees are found small angular bodies (f, f), whose scarred ends show that they supported the peaches that grew last year. Since these bodies bear peaches only once and also since they have no leaf buds, they are not spurs.

Since the peach twigs bear only (with certain exceptions) upon wood one year old it is necessary to so manage the trees as to have a plentiful supply of new growth.

Problems for Observation in the Peach Orchard

1. Are the blossoms on the peach trees in groups of two or are they single? Account for each kind.

2. Do the peaches grow in pairs in the cases where the buds were in pairs?

3. Do the leaves in peach trees grow singly, in pairs, or in threes?

4. During a visit to a well-pruned orchard find out what is done to secure (*a*) new wood to produce fruit buds; (*b*) an open top to admit the sun; (*c*) strong shoots capable of bearing buds in clusters of three.

Music in Public Schools

A. T. CRINGAN, MUS.BAC.

THE subject of Ear Training should receive attention from the Primary classes throughout the entire course of instruction in public schools. It is not sufficient that pupils be required to name scale tones and phrases in the upper grades. Genuine analysis

and appreciation of music may be, and should be, taught from the earliest lessons and should, to some extent, form a part of every music lesson. In actual practice it is imperative that every new element of Tune or Time be presented first to the ear, never to the eye. This method has been followed for years in most of the larger centres having a competent Music Supervisor. During recent years the introduction of phonographic instruments has tended to simplify the teaching of this subject by making it possible to present complete musical sentences as subjects for analysis and criticism on the part of the pupils. It would be unwise, however, to depend entirely on this means for the training of the perceptive faculties. Were it practicable to have an instrument in every classroom this might be possible but, meanwhile, we must deal with conditions as they are found to exist. This makes reliance on the voices of the teacher and pupils, as the principal medium of tone presentation, almost compulsory.

In a preceding article it was stated that "no single element can be attended to without some attention being given to the others at the same time." This is especially true in the matter of Ear Training In the very first lesson on the Doh chord pupils are required to listen and tell whether two tones are of the same, or different pitch, to tell whether. any new tone is heard, to tell the order in which the three tones, Doh, Me and Soh, are sung, and to analyse and describe the mental effects of all three. In the first lesson in Time they are required to listen to a musical phrase and detect the regularity of its pulsations, to discover the order and intensity of its accentuation, and to observe the grouping of pulsations and their consequent formation into measures of two, three or four. This comprises Ear Training of a very definite quality. Here we have two lessons, primarily on Tune and Time, but each dependent for its success on the manner in which pupils are led to exercise their listening faculty. The habit of listening intelligently for musical effects, inculcated in the earlier lessons, should be cultivated persistently in all succeeding lessons whenever opportunity offers. Occasionally, the major portion of the lesson period may be devoted to this subject with decided advantage.

In Primary classes the material for the lessons will, naturally, consist of the elements of Tune and Time with which the pupils are already familiar. At first it will be advisable to deal with each of these elements separately, *i.e.*, "One Thing at a Time." Assuming that the tones Doh, Me and Soh are under study the method will be as follows: The teacher will direct the pupils to listen and tell which of the three tones is sung last, on the vowel Oh. She will now sing such phrases as D M S D, D S D M, D M D S, M D S M, S D M S, naming the first three tones but singing the last one to the vowel Oh. In this form of exercise

the pupils' attention is concentrated on the final tone they being required to discover which of three possible tones occurs at a particular point in the phrase. The method of taking the answers and making necessary corrections requires much care on the part of the teacher. Should one pupil be requested to give his answer it will be found that a large number of the others will signify their agreement by raising hands. Youngsters are exceedingly susceptible to suggestion in matters pertaining to music. The teacher should aim to ascertain just what each individual pupil thinks the answer to be. This may be readily accomplished by a judicious use of the Hand Signs, provided the pupils have previously been taught how to make the signs for the various tones. They should be instructed to make the sign for the tone they think was sung to Oh, keeping the hands under their desks until the teacher gives the command "Hands—OUT", then to raise their hands quickly, without looking at the others. By this means the teacher will be enabled to see at a glance what each pupil thinks. Suppose a number of pupils have failed to discover the required tone, corrections will now be in order. These should be made by appealing to pupils' appreciation of the *Mental Effects* of the various tones. Should Me have been the note sung to Oh, and some pupils indicate that they think it was Doh, the teacher should elicit by questioning that Doh is strong and firm while Me is calm and gentle, then sing the exercise with Doh as the final tone and compare it with what was originally sung. This will usually result in the correct answer being produced.

Another, and most useful, form of exercise consists in having the attention concentrated on some particular scale tone. In conducting this exercise the numerals 1 2 3 4 5 are written on the blackboard and pupils directed to find on which numeral a particular tone is sung. Assuming that this is Soh, the mental effect of this tone will be discussed and pupils directed to listen for the bright, clear, ringing tone. D M D D S, D D M S D, while pointing to the numerals written on the board. Each of the tones with which the pupils are familiar should be treated separately in this manner until they can be quickly recognized.

In the foregoing exercises single tones only are discussed. These should be followed by tones in succession, thus laying the foundation for future work in recognizing and writing from ear, complete musical sentences. In Primary classes the simplest form of exercise will be found in requiring pupils to name the order in which the tones Doh, Me and Soh are sung. In conducting this the teacher will sing, to some neutral vowel, as Ah, phrases composed of the three tones as follows: D S M, D M S, M D S, M S D, S D M, S M D. More variety will be possible when upper Doh has been introduced, as D M D′ S, D S M D′, D′ M S D, M D′ S D, M S D′ D.

When the complete scale has been introduced exercises in naming short scale passages will naturally follow. At first three tones in stepwise order will be found sufficiently difficult. The exercise should be preceded by asking pupils to analyse the scale and name three tones, in ascending or descending order, commencing with any tone specified by the teacher. Individual pupils may be brought to the modulator and required to point to any three tones in the specified order, thus: "Point out three tones commencing with Soh, going downwards; now going upwards from the same tone". It will soon be discovered that all phrases, although apparently similar in construction, are not equally easy of identification. The simplest are those commencing or ending on Doh, *i.e.*, M R D, D R M, L T D′, D′ T L.

As soon as pupils become fairly expert in recognizing three tones in stepwise progression, a fourth tone, approached by *skip*, should be introduced. At first the three tones may be written on the blackboard and the pupils directed to listen for the tone which follows, thus: M R D S, M R D F, M R D L, A useful variation on this form of exercise is provided by inverting the order of the stepwise progression and the skip, thus: S D R M, M S F M, D F M R, D′ L T D′, D′ S F M. The next step will naturally consist of short phrases of three or more tones sung in *any* order, as S R M, D F R, M L S, S L F, S R F M, M S L F, D′ M L S, etc.

In all of the foregoing forms of exercises the key must be clearly indicated by the teacher singing the tones of the Doh chord until the tonality is clearly defined. Any ambiguity in this direction is confusing as a phrase may belong to two or more different keys, should the tonality be uncertain. For example, a reference to the Modulator will show that two successive whole tones may be M R D of the central scale, L S F of the scale to the right, or T L S of that to the left. Again, a whole tone, followed by a semitone, may be R D T_1 of one scale and S F M of the scale to the right.

Ear Training in Time should proceed concurrently with the training in Tune described above. In the Primary class this should commence with exercises in which the pupils are required to discover the regular recurrence of pulses and mark time by gently clapping hands, while the teacher sings some simple familiar melody. This may be followed by discovering that some pulses are more strongly accented than others, and that the accented pulses occur at regular intervals of time. When this grouping into measures of two, three or four pulses has been explained pupils will quickly acquire the ability to tell in what form of measure a melody is written, on hearing it sung, or played. This is accomplished by listening for the strong accent and calling it number One whenever it occurs. In order that the attention of pupils may be

concentrated on one element at a time it is advisable that other elements be excluded. Thus we have "Timeless Tune" and "Tuneless Time". In the latter the exercises are sung on a monotone or, in the earlier steps, tapped with the pointer.

The exercises at a given stage should be based on the subject matter belonging to the grade and should follow closely the introduction of any new division of time. Thus, Primary classes will specialize on half-pulses, Second Form classes on quarter-pulses and Third Form classes on combinations of halves and quarters. Suitable exercises for this purpose will be found in the Educational Music Course in the various chapters in which each new division of Time is presented. Examples: Exs. 49-54 for half-pulses, Exs. 84-86 for half-pulse continuations and Exs. 58-60, on page 62, for quarter-pulses. In drilling on these the teacher will direct pupils to listen while she sings the exercise on a monotone to Lah, and discover how often the required pulse division is found to occur. A most useful exercise may be provided by writing on the board a number of measures containing the pulse division under discussion in combination with other note values. These are written one above the other and each measure is numbered consecutively. After the pupils have sung all of them from the teacher's pointing, the teacher sings one at a time, to Lah, while the pupils listen and write the number of the exercise they consider to be correct. The answers need not be taken until a few measures have been sung, then the correct answers, as five, three, seven, two, may be announced. This device secures much work in little time.

Pupils enjoy competitions in solving Ear Training problems and frequently make requests for them. These are conducted by dividing the class into two sections, pitted against each other. It is understood that all answers must be written and pencils placed whenever the command to do so is given. In this case it is advisable to commence with the more difficult exercises in order that the more expert pupils may be set apart as soon as possible and attention concentrated on those who are most in need of the training. The exercise having been sung in the usual manner, answers are called for. When an answer is given all pupils having the same answer should be requested to stand, whether it be correct or otherwise. If asked to stand only when the correct answer is given a few might be tempted to follow the crowd. When the correct answer is given all who stand are asked to move out and stand by the wall on their own side of the room. The teacher counts those on both sides and announces which side leads. Succeeding tests are given and pupils moved to the side as in the first test, until the weaker pupils only are left. They will probably be found to be making a determined effort to get correct answers, and the difficulty of the tests

should be gradually lessened to suit their needs. At the conclusion of the competition the pupils on both sides who have been set apart are counted and the side having the largest number is declared the winner.

The Recapitulation Step in Literature

ADRIAN MACDONALD

IN the teaching of public school literature the commonest fault is, perhaps, the teacher's failure to provide a proper conclusion for his lesson. The details of the selection are studied through to the end, and there the discussion is dropped. In the child's mind there remains, not an impression of a connected story or poem, but the memory of this difficulty and that explanation, this obscure passage and that paraphrase, this question and that answer. Instead of the complete artistic effect that the author desired, the child recalls merely the scattered fragments of a class discussion. He is, in fact, not unlike that Frenchman who failed to see the forest for the trees.

To avoid this fault the teacher should finish his lesson with some form of recapitulation. When the pupils have interpreted all the difficult passages as satisfactorily as possible, they should be required to look once more at the whole; that is, when they have rubbed all the smears and smudges from the window pane, they should be required to spend a few moments gazing at the complete vista beyond.

Why does the teacher fail so frequently in this part of the lesson? Largely, I believe, because his mind is clouded as to precisely what form such a step should take. He has heard something of "main thoughts", "general ideas", "chief topics", and of the advisability of having these stated by the pupils at the conclusion of a lesson; but he himself finds difficulty in understanding exactly what is meant. What *is* the main thought of "The Battle of the Pipes" or "The Archery Contest"? The purpose of these selections is to tell a story, not to enunciate any particular "main thought". How could the "main thought" of a piece of impressionism such as "The Unnamed Lake" be stated? Or of a fervent expression of sentiment such as "Afton Water"?

In the study of such selections as these—and all selections that are not didactic, expository or argumentative are of this sort—it is a waste of time to seek for any formula of words that might be taken to express the main thought. Let the teacher forget such doctrinaire terms as "main thought", "central idea" and "chief topic", with all the half-truths of logical structure they imply, and let him look simply at the

particular piece in hand. In the case of this individual selection, what would be the best way of getting the pupils to look away from the details to the complete whole? For each piece treated the teacher must make the necessary mental effort to get a suitable recapitulation step. No stereotyped form of questions is of any great use here, or, in fact, any place else in the teaching of literature.

The following examples of method in recapitulation are given, not as absolute models, but as illustrations. Suggestions, not rules, are of value here.

I. "Honourable Toil" (Fourth Reader, p. 391):

In the case of this selection a summary of the author's thought should result from the recapitulation. Call this summary a "statement of the main thought" if you choose. No objection can be raised to your terminology in this instance, for this selection is highly logical in structure.

Such questions as these might be asked: What was Carlyle's purpose in writing these paragraphs? *He wished to tell us what kind of man he honoured.* What was the first kind of man he honoured? *The manual labourer.* The second kind? *The spiritual labourer.* There is something common to both of these—what is it? *They both are labourers.* And what man does Carlyle honour most of all? *The man who does both manual and spiritual labour.*

These questions might well result in such a summary as the following being drawn up on the blackboard:

Carlyle honours:

(1) The manual labourer,
(2) The spiritual labourer,

and most of all the man who does both kinds of labour.

II. "In November" (Fourth Reader, p. 102):

This poem is pure description—it is merely an attempt to suggest a picture. Lampman, if he had been skilful with paints instead of with words, might have represented this scene in water colours. To gather up the effect of it the teacher might suggest to the class the painting of a picture.

Let us pretend we are going to paint this scene. What shall we put in our picture? *Leafless forests.* What colour should these forests be? Where should we place them? What else should go in the picture? *The woodmen's carts.* Where shall we place them? *On the road.* Where should the road lead from? What else should go in the picture? *The ploughman working in the fields.* Where should the field go? The ploughman? What colour shall we make the sky? The field? The road?

If the teacher is handy with his chalk he may, as the questions proceed, lay out the picture with hastily drawn lines on the blackboard.

III. "The Battle of the Pipes" (Fourth Reader, p. 18):

This story could be easily dramatized, and no better recapitulation step could be suggested. Yet sometimes full dramatization is impracticable. In such cases the teacher may get the pupils simply to pretend that they are going to act the story.

What characters take part? What is each one like? Where is the scene laid? *In Duncan Dhu's cottage.* Describe the interior of this cottage. Where did Robin meet Alan? What was their attitude towards each other? Who stopped them from fighting? What was Duncan's suggestion? *That they should try to settle who was the better piper.* What would the different people be doing as the contest went on? How did it end?

IV. "Autumn Woods" (Fourth Reader, p. 103):

This poem is descriptive; but the description is suffused with a very strong emotional colouring. It is, in fact, a true lyric, and nothing in it, perhaps, is more noteworthy than the musical beauty of the lines. Along with the picture of the autumn woods, the pupil should retain in his memory something of the poem's music. For this purpose the teacher may have different pupils read aloud the lines which especially appeal to them—read them while the class just listens. If no pupil picks out such an exquisite passage as the first stanza, the teacher himself should do so:

"Ere, in the northern gale,
The summer tresses of the trees are gone,
The woods of Autumn, all around our vale,
Have put their glory on."

To bring out the musical qualities of this stanza, the teacher should dwell slightly on the long, wailing vowels in such words as "ere", "gale", "gone", "all", and "vale", and should give full value to the rhyme and the rhythm. After reading it he might get the pupils to tell him what the sound is like. *Like the wind in autumn.* He might then read the stanza once more while the pupils listen intently and try to hear the winds of autumn.

It may be noted that in only one of the above illustrations is a blackboard summary recommended—and that is in the case of a selection with a highly obvious plan. This apparent neglect of the blackboard summary is no accident. In the study of most selections, especially poems, a written summary places the emphasis on the wrong elements. The logical framework of such a poem as, for instance, "The Solitary Reaper" is of small importance. Why should any child be asked to carry in his memory the plan of such a poem? What earthly good will such a plan be to him? Much better if he remember nothing but the haunting beauty of three such lines as:

"Perhaps the plaintive numbers flow
For old, unhappy, far-off things,
And battles long ago."

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Seeds in a Primary Room

SHOW the children different kinds of seeds. Compare their size, shape and colour. Let them tell what is hidden safely within the warm wrappings. Correlate with a Reading lesson such as the following: "A baby plant is wrapped up in the seed. The seed gives food to the baby. Have you ever seen a baby plant? If you want to see one soak a bean seed. Then open with a pin and you will see a little baby sleeping. How do these babies get out of their wrappings? The wrappings split".

Little Gardens The following little gardens are interesting to little children and they gain a great deal by observing them.

1. *A Tumbler Garden.*—Fill a tumbler with water. Cut a piece of cotton batting to fit the top. Let it float on the water. Scatter flax seed upon it. Keep in the dark for a few days, then bring to the light. Let the children tell what the baby plant has done.

2. *A Blotter Garden.*—Fold a small blotter lengthwise. Fasten both ends with paper clips or rubber bands so as to make a boat. Lay cabbage seeds in the crease. Keep the blotter moist but not wet. Examine them from time to time. What have the cabbage babies done?

3. *A Sponge Garden.*—Place a sponge on a saucer. Sprinkle with flax or grass seed. Keep the sponge moist. Let the children watch what the grass babies are doing.

4. *A Carrot Garden.*—(1) Cut out a hollow in the large end of a carrot. Keep water in the hollow. Tie a string around the carrot and suspend from a nail in the window. Let them watch for the feathery leaves. (2) Put cotton batting in the hollow and keep it moist. Sprinkle seeds (carrot seeds). Then they can see the babies as well as the feathery leaves of a more mature stage.

5. *A Sawdust Garden.*—Place sawdust in a chalk box or glass dish. Plant bean seeds. Keep the sawdust moist. The bean babies are watched with much interest.

6. *An Egg Shell Garden.*—Place moistened sawdust or earth in a shell and plant seeds. The shells can be broken off easily without disturbing the plant. Other shells like clam and oyster shells are used too.

7. *An Earth Garden.*—Fill with earth and plant the seeds carefully.

Experiments

Some little experiments are of interest and give the child a better idea of the care of seeds and plants.

1. *Soil.*—To give an idea of the importance of good soil take four boxes. Fill one with rich loam, one with poor hard soil, one with clean sand and one with sawdust. Plant the same kind of seed in each. Let them watch for the seed babies to come up. Which looks the best? Let them give the prize to the best box.

2. *Heat.*—Do the seed babies like heat? To prove it fill three boxes with the same kind of earth and plant the same kind of seed in each. Place one in a very hot place, another in a place of moderate heat and a third in a cold place (ice box if possible).

3. *Moisture.*—What effect has water on the seed babies? Place the same kind of earth and the same kind of seed in four boxes or shells. Place them in the light. Keep one dry, one moist, one wet and one *very* wet. Which baby grows the best? Why is it some people cannot grow plants?

4. *Light.*—Fill two boxes with the same kind of earth and plant the same kind of seeds. Place one in the light and one in the dark. Give them the same amount of heat and water. Examine them after two weeks. Are they the same? What colour are they? Which is longer? Which is stronger? Exchange the plants bringing the one in the dark to the light and putting the other in the dark. Examine again. Is there any change?

5. *Position.*—Have one box that they may examine at any time to see the progress of the plant. Plant the seeds in different positions and let the children see if it makes any difference.

6. *Seeds.*—Have seed catalogues and a few seed packages. Their friends will gladly leave a few seeds in the packages if they collect packages at home and from friends. Children can then associate the seed with the picture of the flower or vegetable. Save these packages and seeds for comparison with the real flower or plant later on in the year.

Hints and Helps

1. Primary Section of the O.E.A., April 18th-20th.—Primary teachers will be interested in knowing that we have a section of our own now at the O.E.A. The committee has planned a programme for primary (Jr. I and Sr. I) teachers. The Number work discussion, the

Story Hour, the Game Period are all helpful parts of the programme. On Wednesday we unite with the Women's Federation and for part of Thursday the Section will hear Miss Benzill. Come and help your own section by your presence, by joining in the discussions and by paying your fee to your own section.

2. Books for Primary Rooms.—This month we have another series of delightful readers for little ones. Nursery Rhymes (1, 2)—After each rhyme is a little story which gives the child further use of the words in the rhyme. Phonic Primer (1, 2) and Phonic Infant Reader (1, 2) have very easy stories using words containing the new sound. The Royal King Infant Reader is another series of excellent stories. The pictures in all these readers bring forth "chuckles of delight" and the stories are read and re-read by the children. The print is large, which is an excellent thing in books for little ones. Thos. Nelson & Sons, Ltd., 77 Wellington St., Toronto, have these little books.

Language Training in Form II (Grades III and IV)

MISS KATE STURGEON
Orde Street Public School, Toronto

Correction of Errors in Composition

MANY opportunities for the detection and correction of errors in oral composition will present themselves not only in formal lessons in language training but in all lessons, and much valuable help may be given by quiet alertness on the part of the teacher. When an error occurs, avoid confusion by not having the error corrected until the pupil has reached the period or closing mark of the sentence. Pupils may correct their own errors or have them corrected by other pupils or by the teacher. A list of common errors may be kept, *e.g.*, use of singular with plural verbs and nouns, lie and lay, lying and laying, teach and learn, etc., to be used later in language lessons, blackboard reading lessons, or transcription and language games to impress correct forms. Errors in pronunciation and management of words in sentences may be corrected orally and also by the above methods.

In the correction of errors in written composition, careful oversight is required and neat, carefully written papers will lessen the work of the examiner considerably. In order to encourage neatness, announce a reward—a "tidy star" made with coloured crayon or pasted on the upper left-hand corner of the paper. After all the papers have been read they may be arranged in groups—group one, best; group two,

average; and group three, poor. Groups one and two are marked first, corrections being made with red ink. (Capitals, periods, indentation, use of verbs, arrangement of words and sentences, etc.) Keep a list of examples of good sentence arrangement and originality in the use of words and phrases to be read aloud later. Some of the best compositions may be read to the class by teacher or by pupils, as a reward for and an incentive to good work. A few type errors may be written on the blackboard to be criticized and corrected by pupils. Use coloured chalk for corrections. Require any carelessly written paper to be rewritten before errors are marked. Read the poor papers in order to ascertain the cause of the trouble and deal with those in difficulty before requiring them to rewrite compositions. Old papers should be kept by the teacher for comparison with work done later in the term.

The following devices have been used and found helpful in dealing with pupils in group three whose errors may be classified as follows:

I. *Errors in grammar and diction, e.g.,* in use of singular or plural forms, word arrangement or failure to convey thought to be expressed. Such pupils require extra practice in oral reproduction. While this practice is being given (see method outlined in February number of THE SCHOOL) pupils who wrote best compositions may be allowed to copy extracts from School Readers, Supplementary Readers or story-books, and "average" compositions may be rewritten, errors being corrected. Pupils needing help may be allowed to read some "best" compositions carefully checking off each sentence on the blackboard. Then have pupil rewrite the story, sentence by sentence, first telling what he is going to write. Assist by questioning if necessary.

II. *Errors in Punctuation.*—Have the pupil retell the story, checking off each sentence. Vary this method by having him write the capital letter for which each tick stands, *e.g.,* One day a lion was lying asleep in the forest. O. Have him read aloud; natural pauses and expression in reading will suggest position of commas, question and exclamation marks.

III. *Frequent Use of "Ands".*—Method used in (II) will be found helpful. Impress the rule of the story game, viz., "And" must not be used at the beginning of a sentence. Later on "ands", as joining words, will be taught and used in sentences.

IV. *Omission of Some Words.*—This error may be due to rapidity of thought, poor eyesight or carelessness. Method used in I. and suggesting that pupil read over each sentence before proceeding to the next will be found helpful. Should carelessness be the cause, deduction of marks will prove effective.

V. *Errors in Sentence Grouping (Paragraphing).*—Have a "guessing game" before written work. "Paragraph pictures" are on the black-

board. Teacher quotes:—"The little mouse said, 'Perhaps I shall be able to help you some day'", and asks, "To which paragraph does that sentence belong?" Pupils may take turns in questioning and those representing sentences stand near pictures (paragraphs) to which they belong. This practice will impress correct grouping of sentences.

VI. *Errors in Facts.*—This may be due to poor memory, especially when long stories are to be reproduced, or to inattention during lesson. See that questions are well distributed when teaching. The method suggested in I. will be found helpful. See also the January number of THE SCHOOL, page 281, section eight.

VII. *Errors in Spelling.*—Sometimes the mind is so intent on the thought to be expressed that errors in the spelling of simple words result. Encourage slow writing and rereading of each sentence before proceeding to the next one. Have a list of difficult words on the blackboard before written work is required. These may be in view while pupils write. Have a word drill and spelling lesson. Ask pupils to use words that they can spell. Pupils sometimes ask for the spelling of some new word which they wish to use. These may be written on the blackboard for the benefit of all.

As frequent practice in oral and written composition is given and complete statements required in answer to all questions in all lessons, ease in speaking and writing will be acquired and the tendency to make mistakes lessened.

Literature for the Third Form (Grade V).

"TUBAL CAIN" BY CHARLES McKAY

MANY years ago Charles Mackay, a Scottish poet, wrote a song entitled "There's A Good Time Coming, Boys, A Good Time Coming". The "good time" referred to in this song was to be the time "when Right, not Might, shall rule mankind." It has not yet come, but it is nearer, and more and more people feel that it would indeed be a good time. Let your pupils express their opinions on this subject freely. Let them tell what they know about the efforts which are being made at the present time by the great nations of the world to bring about such a desirable condition. What nation within the past few years took might as its ideal? What was the result? Is war ever justifiable?

While the teacher reads the poem aloud let the pupils try to discover the writer's answer to this question.

View of the poem as a whole.

Q. When did Tubal Cain live?

Q. In what book do we read about the time "when earth was young"? (In Genesis IV, 22, Tubal Cain, son of Lamech, is described as "an instructor of every artificer in brass and iron".)

Q. What were the ideals of his day? (Might seems to have been the ideal.)

Q. Quote from the poem to prove your answer.

"(Hurrah for the spear and sword!
Hurrah for the hand that shall wield them well,
For he shall be king and lord"!)

Q. What was Tubal Cain's first occupation?

Q. Did he like his work? ("And he sang—'Hurrah for my handiwork'?")

Q. Was his business successful? In what respects?

(1. He had plenty of work—
"To Tubal Cain came many a one".
2. He was a good workman—
"He made them weapons sharp and strong,
Till they shouted loud for glee".
3. He was well paid—
"And they gave him gifts of pearls and gold,
And spoils of the forest free".
4. He was well liked—Stanza II, the last 4 lines.)

Q. Why did Tubal Cain give up such a successful business? (He saw that it was doing harm to his fellow-men.)

Q. Describe the condition of the people at war.

Q. Would it be an easy matter for an old man to change his occupation and give up such a successful business?

Q. Where is this struggle between right and wrong best described?

Q. What was Tubal Cain's new occupation?

Q. Describe the condition of the people at peace and contrast it with their condition at war.

Q. Which is the preferable condition?

Q. What is the author's opinion regarding war? (It may be necessary upon occasions.)

Q. What are these occasions?

Q. On what subject, then, was the author really expressing his opinions while telling us the story of Tubal Cain? (Peace and war.)

The blackboard might show the following general outline:

Main Thought: War is undesirable but it may be necessary upon occasions.

Division I.—Stanzas 1 and 2—Tubal Cain makes implements of war.

Division II.—Stanzas 3 and 4—Tubal Cain makes implements of peace.

Division III.—Stanza 5—Peace is the more desirable condition. War is justifiable only to put down tyranny and oppression.

As in previous lessons outlined in these pages the general analysis of the poem should be followed by a more detailed study, and finally while interest is keenest in the pictures which the poem describes and in the ideas which it expresses, have different pupils read the poem aloud to test their appreciation. If possible, compare the picture of Tubal Cain as presented in this poem with the picture of the smith at his forge in Longfellow's Village Blacksmith.

W.L.C.R.

A Picture Study

FOR THE JUNIOR THIRD (FIFTH GRADE)

S. W. PERRY, B.A.
Ontario College of Education

THE picture chosen makes a special appeal to children of this school grade. All of them understand the comradeship existing between this drowsy child and playful dog.

This article was suggested by a recent impromptu discussion following a fine two-minute address by a pupil in the third form during the picture study period. The picture under discussion was "Wake-Up" by the animal painter, C. B. Barber. After the manner, and in the language of childhood, numerous opinions were expressed in a very interesting way about the following:

(*a*) The wonderful play of light and shade and shadow.

(*b*) The beautiful contrast of dark and light.

(*c*) The most interesting object.

(*d*) The story told by the picture.

It was finally agreed:

(*a*) That the specks of high-light on the distant bed-post clearly indicated that light was entering from an opening in the front and slightly upper right-hand side of the room. A detailed examination of the picture was made to prove the correctness or falsity of this decision. The shade and light were found to be playing hide-and-seek on the uneven coat of the dog, on the folded-back portion of the bed-spread, on the pillow, on the face and on the gown of the child. In the search for them, cast-shadows were found hiding under the dog's paws, under the child's dress, under the bed-spread, under the pillow, under the picture book, and under the child's hand and face.

(*b*) That the black face and ears, and the black collar on the dog made a pleasing contrast with the whiteness of the rest of his body. The black beads and a black covered book on a white bed-spread became interesting. The beauty of dark eyelashes, eyebrows, and hair on

C. B. Barber

WAKE-UP

the sleeping child, as against the surrounding whiteness, was at once appreciated. It is true, none noted the gradations of tone. That was not to be expected. In fact, the word "tone" was never used. Yet they were well on the way to an appreciation of Whistler's definition,

"Tone is the just relationship of the various values or notes in a picture", when it shall be deemed advisable to give it to them.

(*c*) That the dog was the most interesting object in the picture. Opinions were very much divided on this question. Some claimed that the position of honour belonged to the sleeping child. However, the majority favoured the dog, because he was given the greater prominence; he showed off better against the dark background; he was awake and active.

(*d*) That the picture tells the story of a little girl who overslept, much to the disgust of her fox terrier who at last showed his impatience by jumping on her bed to awaken her. There was a brief discussion about the place of the book and necklace in the story, and as to the language the dog would use if he could talk.

Intelligence Tests and Classification

ALICE WILLSON

ON occasions like the meetings of the Education Section of the American Association for the Advancement of Science, it not infrequently happens that an audience of educationists will receive with apparently unqualified approval, proposals which any principal would hesitate to carry out in the organization of his own school. This is especially the case when suggestions are thrown out as part of a series illustrating the general application of the speaker's hobby. Sympathy with the main thesis lends a momentum which drives the audience on and, like a racing horse, it "takes" obstacles which it would balk at ordinarily.

One of the most interesting papers read at the Education section of the Association, was that of Mr. Warren K. Layton, of Detroit, on "Intelligence Tests". The Psychological Clinic in Detroit is evidently a great success. Furthermore, interest in intelligence tests is very keen among educationists generally and among those of Toronto in particular, thanks to the Ontario College of Education and Professor Sandiford. Everyone feels that the new instrument is likely to prove invaluable. The scientific expert can test *power* where the ordinary schoolroom processes tested only *acquirement* and that without reference to any standard scale. Nevertheless the expert with his scientific test is rather like the boy who wants to whittle, because he has a nice new knife, very sharp and shiny. Most fathers and some mothers have a fellow-feeling for him but it is accompanied by a panicky sensation which incites them to prompt and generous action in supplying the young man with wood.

A somewhat similar feeling of panic was stirred in the breasts of at least a few of those who listened to Mr. Layton and marked the unstinted approval with which all his proposals were received.

He stated that a new system of classification had been introduced about a year ago into the Public Schools of Detroit. The children who enter school for the first time, at about six years of age, are classified by means of scientific tests into three groups and are then started on their educational careers along three separate paths. Those who show an average mentality have an average programme of studies, the superior mentalities an enriched programme covering the same length of time and the slow minds have a simplified programme. Presumably a new test is made at the end of the time allowed for the programme. It is not probable that even the most scientific expert would claim to be able to decide a six-year-old child's mental potentiality as well as his mental power. This arrangement does not include the mental defectives. They are given individual tests and are taught by specialists in separate classes with a different programme. The Detroit plan is that *normal* children are to be divided into these three groups of high, low and average mentality and taught separately.

There was not much discussion of the paper, owing no doubt to lack of time, but the temper of the audience was unmistakable—approval, absolute and unqualified.

It is evident that the interest in scientific tests is so great and admiration for them so unalloyed that people are forgetting to give careful consideration to the question of their use. As a matter of fact the man with the test is really remarkably like the boy with the sharp knife.

If it were a desirable thing to have all the bright pupils in one class and all the slow ones in another, with the average either in a third or divided between the other two, this method of classification would have been used long ago. It is quite easy for a teacher to separate the particularly bright and particularly slow pupils from the average, even without the help of the psychological clinic and its staff of experts. There is less danger of mistakes, of course, if the classification is done by the psychologists and certainly *if the system is to be adopted*, by all means let the classification be as scientific as possible. But ought the system to be adopted?

It *has* been adopted in some private schools, usually with a certain amount of camouflaging of the basis of classification. It has also been tried at least once (seldom oftener) in the first forms of many Ontario secondary schools. The tale is told that it was tried once in a Collegiate Institute in a town in Western Ontario. The first forms were 1A, 1B, 1C and 1D in a descending scale of mentality. A limp pedagogue was seen leaning against the door-jamb outside of the "1C" class-room.

"What's the matter?" asked an alarmed colleague, "are you hurt?"

"No," he breathed faintly, "Is this 1C or 1D?"

"It's 1C."

"Then Heaven help the poor chap in D! Who is he?"

The plan, although it included the enriched and simplified programmes, was very soon abandoned and the first forms re-classified—alphabetically.

The difficulties are of two sorts, extra-mural and intra-mural. It leads to endless trouble with parents; all those whose children are not in A are likely to object. Intra-murally, the first class is splendid but the others are a dead weight, getting heavier and heavier till the final stage of low mentality is reached. "There is nobody to help start anything!" was the complaint of the limp pedagogue above mentioned. The incitement of example and the inspiration of competition are lacking.

It may be argued that the mentally strong ought not to be retarded for the sake of the others or for the sake of making the work of the limp pedagogue easier. But there are other ways of giving the mentally superior pupils a chance. An enriched programme can be provided for them by teaching additional subjects during periods when the average pupil is engaged in supervised study.

The great need in most schools is a reduction in the size of classes or, what amounts to the same thing, an increase in staff sufficient to allow part time sub-division of grades.

The Teaching of Geometry

PROFESSOR W. J. PATTERSON, M.A.
Western University, London

Part II

The Elements of Geometry in the High Schools

THE foundations of science are always important. I propose, therefore, to give a few introductory lessons on the elements of geometry suitable for beginners in the subject. Of necessity the lessons will be in outline only, but they will furnish a basis for class teaching in the subject in greater detail, and with varying emphasis according to individual needs.

Some Fundamental Ideas Defined

1. Geometry is the science of space relations.

2. Some fundamental ideas of space are position, distance, and direction. These are also fundamental ideas of geometry.

3. The geometrical point is position only. A particular point is a particular position, or, has a particular position.

4. Different points are different positions in space, and different positions in space are different points.

5. If two points have the same position in space they are identical, and are said to coincide.

6. A point is indicated on the paper or on the board by a dot, thus, ., or by a little cross, thus, x.

7. The dot and cross are not points, but small portions of lead or chalk or some other colouring matter that attracts the eye toward the position indicated by them.

8. That we may speak of a particular point we must indicate its position and give it a name. The letters A, B, C, etc., are usually employed to name points. The name of a point is written near it. N.B.—The dot is not the point, and the name-letter is not the point. What is the point?

9. Different points must be given different names and be indicated by different dots.

10. Neither the name nor the mark is a quality or property of a point. What is?

11. So far we have been considering points on paper or on the board. Let us choose any position on the board, indicate it by a dot and give it a name A. Choose two other positions on the board, indicate them by dots and give them names B and C.

12. In what respect does point B differ from point A? In what does C differ from A? In what does C differ from B?

13. Suppose, now, that A, B, C are points on the earth's surface in your neighbourhood (say towns you know), and that you live at A and are planning to go to either B or C. In what respect would a journey from A to B differ from a journey from A to C generally (1) when A, B, C lie on the same straight road; (2) when A and B lie on one straight road, and A and C lie on another straight road? Could you say that a journey from A to B is the same as a journey from A to C? Why not? Answer for both cases (1) and (2)—Could you say that a journey from A to B is the same as a journey from B to A? Why not? In what would a journey from B to A be the same as a journey from A to B? In what different?

14. As a point, B differs from A in position. This difference we call distance. Also A differs from B by an *equal distance*. Therefore, as positions only, B differs from A as much as A differs from B, *i.e.*, the distance B A is identical with the distance A B. But the journey B A is not identical with the journey A B nor is the line B A identical with the line A B. In one respect the relation of B to A is identical with

the relation of A to B, *i.e.*, in respect to distance; but in another respect the relation of B to A is different from the relation of A to B, *i.e.*, in respect to direction.

15. Now, if we return to the points A, B, C on the board, and ask in what B differs from A we have only one answer, it differs in position; also, C differs from A in position only. But looking at B and C from A we see that not only do they both differ from A in position but they differ from one another (generally) in position with respect to A and also in direction looked at from A. Therefore, the particular properties of the points B and C are dependent on some other point, *i.e.*, are relative to some other point.

16. The point A may be called a point of relativity or of reference of B and C.

17. If a point of reference of two points be moved to the line joining the points their mutual distance is unchanged, their distances from the point of reference will, generally, be changed and their directions will be changed.

Exercises

1. To what position must A, the point of reference, be moved that the distance of B and C from it may be equal, but the directions opposite?

2. To what positions must A, the point of reference, be moved that the directions of B and C may be the same?

3. To what position must A be moved that A B may have no direction? A C no direction?

4. When the distance A B vanishes, what becomes of its direction? When its direction vanishes what becomes of its distance? Can A B be said to have direction just when the point A is moving into the position B?

5. How many distinct points are necessary to determine a direction? How many directions are determined by them? Explain.

(*To be continued*).

Two girls, unfamiliar with baseball, were watching the local nine play a visiting team last Saturday.

"Isn't that fine?" remarked one girl. "We have a man on every base".

"Why, that's nothing", said the other, "so have they".—*Boston Transcript.*

A Long Hunt

Johnny: "Say, paw, I can't get these 'rithmetic examples. Teacher said somethin' 'bout findin' the great common divisor."

Paw (in disgust): "Great Scott! Haven't they found that thing yet? Why, they were huntin' for it when I was a boy."

An Example in Geometrical Analysis

PROFESSOR J. T. CRAWFORD
Ontario College of Education

IN the February number I gave an example in geometry as an illustration of the use to be made of analysis in solving original exercises. From the amount of correspondence I have received and the many solutions which have been sent in, it is quite evident that the subject was of great interest. A mathematical master of an Ontario high school writes: "I found the different methods of analysis very interesting and so did my pupils, who worked very hard to get solutions to the different cases. I should like to have more of such examples. I think they are good".

The problem to be solved was: *In the triangle ABC, the side AC is twice the side AB, show that the angle B is more than twice the angle C.*

The majority of the solutions which follow were from pupils of the Riverdale Collegiate Institute, Toronto. They are not exactly as sent in, but are contracted to save space.

(1) Since ADE is a right angle, AE is greater than AD and therefore greater than AB. Therefore angle B is greater than angle AEB. Therefore angle B is greater than twice angle C, since angle EAC = angle ACE.

(2) Since angle ACF is bisected by CB, the ratio of AC to CF equals the ratio of AB to BF. But AB is ½ of AC, therefore BF is ½ of CF and therefore BC is greater than ½ of CF. Therefore BC is greater than BF and angle BFC is greater than angle BCF. Therefore angle ABC is greater than twice angle ACB.

(3) Draw AK parallel to BC is meet GC at K. Then $AK = KC$ and therefore each is greater than ½ of AC, therefore KC is greater than AB. But KC is to GC as AB is to GB. Therefore GC is greater than GB, etc.

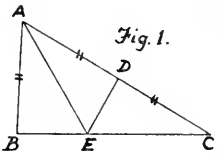


Fig. 1.

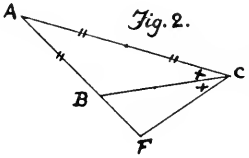


Fig. 2.

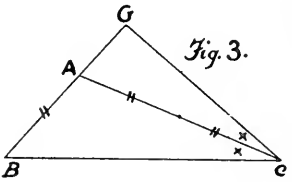


Fig. 3.

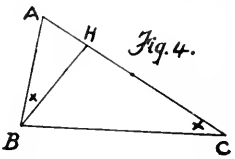


Fig. 4.

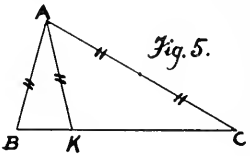


Fig. 5.

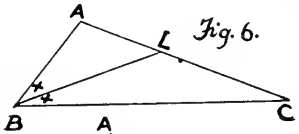


Fig. 6.

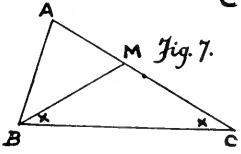


Fig. 7.

(4) The triangles ABH and ABC are equiangular, therefore AB is to AC as AH is to AB. Therefore AB is twice AH, and CH is 3 times AH. But BH is less than $AB+AH$, therefore BH is less than 3 times AH. Therefore CH is greater than BH, etc.

(5) Since $AK+KC$ is greater than AC, than KC is greater than AK, etc.

(6) Through L draw LK parallel to AB to meet BC at K. Then $LK=BK$. Since the triangles ABC and LKC are similar, AB is to AC as KL to LC. Therefore $LC=2\ KL=KL+BK$. Therefore LC is greater than LB, etc.

(7) Draw MK parallel to BC to meet AB at K, then KB is to MC as AB to AC, therefore $KB=\frac{1}{2}\ MC=\frac{1}{2}\ MB$. But $KM+KB$ is greater than MB, therefore KM is greater than KB, etc. If ABC is a right angle, since angle $MBC=$angle MCB then angle $ABM=$angle A and therefore $AM=BM=CM$. It is then easily shown that angle ABC is 3 times angle C. If angle ABC is obtuse it is greater than 3 times angle C.

(8) $b \sin 2\ C=2\ b \sin C \cos C=2\ c \sin B \cos C$. Therefore $\sin 2C=\sin B \cos C$ since $b=2\ C$, but $\cos C$ is less than unity, therefore $\sin 2\ C$ is less than $\sin B$ and therefore B is greater than $2\ C$.

The Parasitic Fungi

R. C. ELDER, B.S.A.

THE recognition, economic importance and control of the parasitic fungi (grain rust, loose smut of oats, corn smut, apple scab and black knot) are included in the course of study for the Fall Term Botany and Second Year Agriculture of the Lower School in Ontario. While they are of direct economic importance to the agricultural student, the same cannot be said of their relation to the city boy or girl taking the course in botany. In view of this the teacher's problem in the two cases is quite different. The aim of the botany teachers, many of whom will be in the larger towns and cities, will be to give the pupils examples where the science of botany is put to an economic use and to impart general ideas rather than technical information. The prevalence of all five of the fungi makes the securing of laboratory material a simple matter. But the loose smut of oats and corn smut have to be obtained during the summer.

The best place to study the fungi is in the field. If possible, excursions should be made by the class to the fields and orchards where the major characteristics and results of the disease may be seen at first hand. Specimens should be secured by every member of the class. In every community the teacher will find some progressive farmer who is combatting the pests in an intelligent manner, and from experience the writer knows that these men (while they are rather loath to explain their methods in public) will gladly assist in giving demonstrations and talks to the school boys and girls. In the agricultural class the topic should be taken up in connection with the home project.

The following article was prepared from the Ontario Department of Agriculture, Bulletins Nos. 229 and 257. The cuts were taken from these bulletins and some of the material has been directly copied.

GRAIN RUST (*Puccinia graminis*)

Recognition: This is the most destructive grain rust. It occurs on wheat, oats, rye, barley, and many wild grasses. An examination of almost any straw at any time of the year will reveal the presence of this disease as reddish-brown or black lines. It is most abundant on late varieties of oats. At harvest time the binder and the arms of the men stooking the grain may become covered with the rust spores if the disease is bad.

It first appears as rust coloured lines on the stems and leaf sheaths but is sometimes present on the leaves and chaff. This is known as the summer or red rust stage of the fungus. On close examination the lines appear powdery and are surrounded by the ragged edge of the ruptured skin. Later in the season, as the grain ripens the lines become black. This is known as the black rust stage.

Life history: There are four distinct stages through which it passes during the year:

1. The red rust or uredospore stage which appears in early summer. The spores produced by this stage may infect other plants during the growing season and a new crop appears in a week or ten days.

2. The black rust or teleutospore stage which appears as the grain begins to ripen. These are thick-walled two-celled spores which do not germinate until the following spring.

3. On germination of the teleutospores, thin-walled spores or basidiospores are produced which can only infect the leaves of the barberry.

4. The cluster-cup or aecidiospore stage which appears on the leaves of the barberry produces spores which again attack the grain. This alternation of hosts is not however essential to the continuance of the disease.

Economic importance: The Department of Agriculture estimates the loss due to this disease at from two to ten per cent., depending on the season. The average financial loss is probably in the neighbourhood of $5,200,000 per annum for the province.

Control: 1. Destroy the common barberry in the neighbourhood. 2. See that the fields are well drained. 3. Sow early maturing and rust-resistant varieties. 4. Do not mix early and late varieties. 5. Good cultivation, good drainage and sound plump seed give vigorous plants which withstand attacks of disease better than weak plants.

Loose smut of oats (*Ustilago avenae*)

Recognition: This is the commonest and most troublesome grain smut of Ontario. It is noticeable as soon as the oats begin to head. It destroys the kernel, the hull, and the chaff, changing them to a dark brown powder resembling soot. The whole head becomes a mass of smut. The smut masses are frequently blown away by the wind leaving only the naked branches of the inflorescence. It will thus be seen that laboratory material for this must be obtained just after the oats come into head in the early summer.

LOOSE SMUT OF OATS (about one-half natural size).
Courtesy of Ontario Department of Agriculture.

Life history: The spores are scattered by the wind about the time the oats are in flower. They are blown to healthy heads of oats and here they remain dormant until the grain is sown. The disease is thus carried over the winter as spores on the grain. In the spring, when the seed is sown and germinates, the spores also germinate throwing out fungus threads which penetrate the young seedling plants. The fungus threads follow the growing point up the stem and when the heads form reduce them to the powdery masses mentioned above.

Economic importance: The estimated average annual loss due to oat smut is 5% of the crop or $3,750,000 in Ontario.

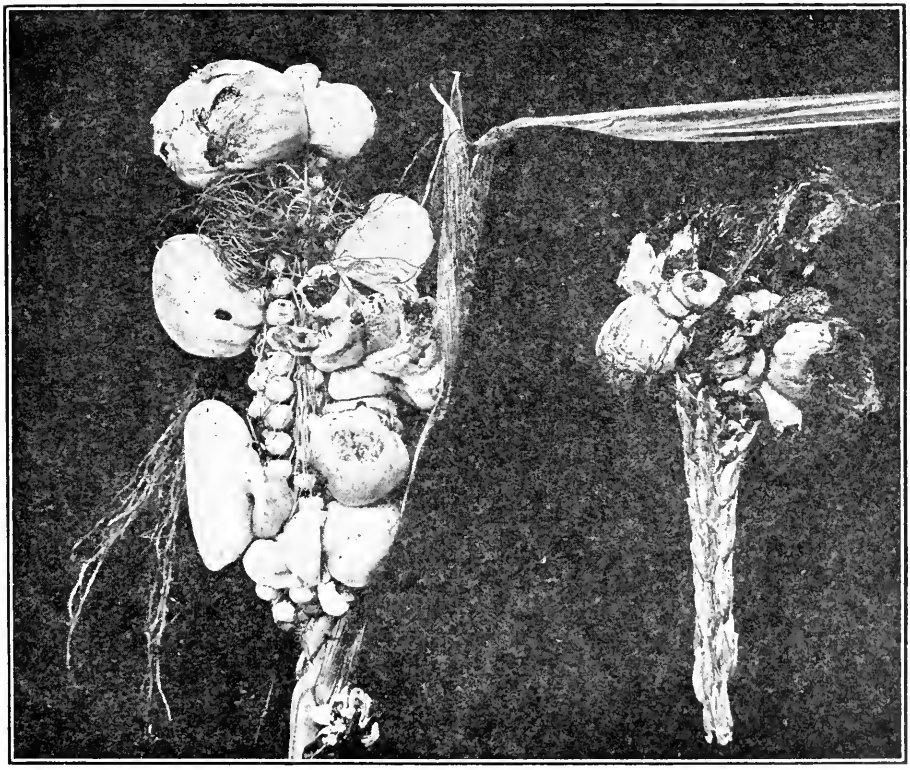
Control: As the spores pass the winter outside the seed, this disease can easily be controlled by treating the seed with formalin solution.

"The Dry Formaldehyde treatment".

In the so-called "dry" treatment each shovel full of grain is sprayed with a solution of equal parts of water and formalin (40% formaldehyde). One pint of the solution is sufficient for twenty-five bushels of oats. The treated grain should be piled in a heap or bin and covered with sacks which have been thoroughly disinfected with the same solution. After five hours the seed should be uncovered and may be sown immediately.

Corn smut (*Ustilago zeae*)

Recognition: This smut is familiar to everyone who has grown corn. It is conspicuous for the large smut "boils" which may appear on any part of the stem, ear or tassel. At first they are white and polished but



CORN SMUT ON EAR AND TASSEL (about one-half natural size).
Courtesy of Ontario Department of Agriculture.

grow darker as they mature and finally rupture and expose a mass of black spores.

Economic importance: Many farmers consider the loss due to corn smut too small to demand any particular attention but the following methods of control will pay.

Control: 1. Remove and burn smut balls as they appear. 2. Avoid fresh manure which is liable to be affected. 3. Practice a rotation of crops.

(*To be continued*).

Supplementary Reading for the Middle School

PROFESSOR G. M. JONES
Ontario College of Education

IN the February and March numbers of THE SCHOOL appeared a supplementary reading list for the Lower School. The following list is the corresponding one for the Middle School. Lists from twenty-two schools (eighteen Collegiate Institutes and four High Schools), were combined by Miss Jean Fell, B.A., of last year's English and History Seminar Class in the College of Education, and now of Seaforth Collegiate Institute. Altogether the names of over 1,600 different books appeared, but only about 450, or 28%, appeared on more than one list. In the following table will be found the names of all books listed by more than one school.

MIDDLE SCHOOL—(Grades XI and XII)

FICTION AND ESSAYS

Author	*Book*	*Times listed*
Addison	Sir Roger de Coverley	3
Austen, Jane	Sense and Sensibility	6
	Emma	6
	Pride and Prejudice	11
	Northanger Abbey	2
	Mansfield Park	2
Barrie, J. M.	The Little Minister	5
	A Window in Thrums	4
	Sentimental Tommy	3
	Peter and Wendy	2
Bennett, Arnold	Mental Efficiency	3
	Literary Taste	3
	How to Live on Twenty-four Hours a Day	2
Benson, A. C.	The Leaves of the Tree	2
	From a College Window	2
Birrell, Augustine	Obiter Dicta	2
Black	Judith Shakespeare	2
Blackmore	Lorna Doone	11
Bronte, C	Shirley	4
	Jane Eyre	10
Carlyle	Essay on Burns	2
	Heroes and Hero Worship	4
Cervantes	Don Quixote	5
Cholmondeley, A.	Christine	4

Author	*Book*	*Times listed*
Churchill	Richard Carvell	2
Connor, R	The Man from Glengarry	3
	The Sky Pilot	2
Conrad	Lord Jim	2
Cooper, Fenimore	The Last of the Mohicans	6
	The Deerslayer	3
	The Pathfinder	3
Curtis	Prue and I	4
Davis, W. S	A Friend of Caesar	4
	The Victor of Salamis	2
Deland	Old Chester Tales	2
DeMorgan	Joseph Vance	3
	Alice-for-Short	2
Dickens, Charles	Nicholas Nickleby	7
	Tale of Two Cities	9
	Great Expectations	4
	Bleak House	4
	Pickwick Papers	3
	David Copperfield	8
	Barnaby Rudge	7
	Dombey and Son	6
	Little Dorrit	2
	Oliver Twist	2
	Old Curiosity Shop	5
Doyle, Conan	The Refugees	2
	Through the Magic Door	3
	Micah Clarke	2
	White Company	3
Dumas, A	The Three Musketeers	5
	The Black Tulip	3
	Count of Monte Cristo	4
	Twenty Years After	2
Duncan	Tales down North	2
	Dr. Luke of the Labrador	2
Eliot, George	Mill on the Floss	12
	Silas Marner	3
	Adam Bede	8
	Romola	7
Gaskell, Elizabeth	Cranford	11
Goldsmith	The Vicar of Wakefield	10
Grahame	The Golden Days	3
Grayson	Adventures in Friendship	2
Haliburton	The Clockmaker	3
Hankey, Donald	A Student in Arms	2
Hardy	Under the Greenwood Tree	3
	The Major of Casterbridge	2
	Far From the Maddening Crowd	3
Harland, Henry	My Friend Prospero	2
Hawthorne	The House of Seven Gables	8
	The Scarlet Letter	2
Holmes	Elsie Venner	2
	Autocrat of the Breakfast Table	7
Howells	Rise of Silas Lapham	2
Hughes, Thomas	Tom Brown's School Days at Rugby	3
	Tom Brown at Oxford	2
Hugo	Les Miserables	8
	Hunchback of Notre Dame	4
	Toilers of the Sea	2
Jameson	Shakespeare's Heroines	
Johnson	Rasselas	2
Johnston	The Long Roll	2
	Cease Firing	2
	To Have and to Hold	3
Kingsley	Westward Ho!	14
	Hypatia	5
	Alton Locke	2
	Hereward the Wake	3
Kingsley, H	Raven-hoe	2
Kipling	Captains Courageous	5
	The Light that Failed	3
	Kim	6
	The Day's Work	2
	Puck of Pook's Hill	3
	Sea Warfare	2
Kirby	The Golden Dog	6
Lamb	Essays of Elia	8
Laut	Heralds of Empire	3
	Lords of the North	3
Lubbock	Pleasure of Life	2
Lever	Chas. O'Malley	2
Lytton	Last Days of Pompeii	13
	The Last of the Barons	4
	Rienzi	3
Macaulay	Essays	2
McArthur	In Pastures Green	2
McKenna, Stephen	Sonia	3

Author	*Book*	*Times listed*
McClung	In Times Like These	2
More	Utopia	3
Mulock	John Halifax, Gentleman	4
O'Brien	Best Short Stories of 1919, or 1918, or 1917, or 1916	2
Ollivant, Alfred	Bob, Son of Battle, the Gentleman	5
Parker	Battle of the Strong	2
	The Translation of a Savage	3
	Right of Way	2
	The Weavers	3
	The Seats of the Mighty	6
	Trail of the Sword	2
Porter	Scottish Chiefs	2
Reade	The Cloister and the Hearth	9
	Put Yourself in His Place	2
Roberts, Charles G.	A Sister to Evangeline	3
	The Forge in the Forest	2
Ruskin, John	Sesame and Lilies	11
	Crown of Wild Olive	8
	Ethics of the Dust	3
Scott, Walter	Old Mortality	5
	Waverley	6
	Woodstock	4
	The Talisman	8
	Guy Mannering	6
	The Black Dwarf	2
Scott, Walter	Quentin Durward	10
	Ivanhoe	6
	Anne of Geierstein	2
	Rob Roy	5
	Kenilworth	4
Sienkiewicz, Henry	Quo Vadis	2
Stevenson, Robert L.	Master of Ballantrae	9
	Kidnapped	5
	Dr. Jekyll and Mr. Hyde	5
	The Black Arrow	3
	Virginibus Puerisque	6
	Treasure Island	5
	The Merry Men and Other Stories	3
	David Balfour	2
	Across the Plains and Other Essays	3
St. John Ervine	Changing Winds	2
Thackeray	Vanity Fair	9
	Henry Esmond	9
	The Newcomes	2
Trollope	The Warden	3
	Barchester Towers	3
Twain, Mark	The Innocents Abroad	3
Van Dyke	Days Off	2
	Fisherman's Luck	2
Wallace	Ben Hur	3
Wells	Joan and Peter	2
Weyman	House of the Wolf	2
Wyss, J. D.	Swiss Family Robinson	2

POETRY AND DRAMA

Author	*Book*	*Times listed*
Arnold, Edwin	Light of Asia	2
Arnold, Matthew	Balder Dead	3
	Sohrab and Rustum	4
Barrie	Echoes of the War	5
Binyon, Lawrence	Attila	2
Browning	Selected Poems	4
	Pippa Passes	3
	Saul	2
Browning, Mrs.	Selections	2
Burns	Tam O'Shanter	2
	Cottar's Saturday Night	2
Byron	Childe Harold's Pilgrimage	6
	The Corsair	2
	Prisoner of Chillon	2
Carlyle	Sartor Resartus	2
Coleridge	Ancient Mariner	2
	Christobel	2
Drinkwater	Abraham Lincoln	4
Drummond	The Habitant	3
	Johnnie Courteau	3
	The Voyageur	2
Garvin	Canadian Poets	3
Goldsmith	She Stoops to Conquer	8

Author	*Book*	*Times listed*
Goldsmith	The Deserted Village	5
	The Good-natured Man	3
	The Traveller	6
Gregory, Lady	Seven Short Plays	2
Holland, Norah M.	Spunyarn and Spindrift	5
Johnson, Pauline	Flint and Feather	4
Keats	The Eve of St. Agnes	2
Kipling	Seven Seas	2
Longfellow	Tales of a Wayside Inn	5
	The Courtship of Miles Standish	4
	Golden Legend	2
	Hiawatha	5
Macaulay	The Lays of Ancient Rome	4
Maeterlinck, Maurice	The Blue Bird	4
Mair, Charles	Tecumseh	2
Marlowe	The Jew of Malta	3
Masefield	Reynard the Fox	2
Milton	Paradise Lost (Book 1)	8
Norwood	The Witch of Endor	2
Noyes	Tales of Mermaid Tavern	2
Phillips, Stephen	Ulysses	6
	Herod	5
	Nero	3
Pickthall, Marjorie	The Drift of Pinions	2
Pope	Rape of the Lock	6
	Essay on Man	2
Rand, Theodore	A Treasury of Canadian Verse	2
Rossetti, C.	Selections	2
Rostand, Edmond	L'Aiglon (The Eaglet)	2
Scott, D. C.	Lundy's Lane and Other Poems	2
Scott, Sir Walter	Rokeby	2
	Marmion	7
	The Lay of the Last Minstrel	7
	The Lady of the Lake	4
Service	Rhymes of a Red Cross Man	2
	Songs of a Sourdough	2
Shakespeare	Hamlet	11
	Othello	4
	Twelfth Night	11
	The Tempest	9
	As You Like It	8
	Midsummer Night's Dream	4
	King Lear	4
	Much Ado About Nothing	3
	Anthony and Cleopatra	3
	Henry the Fifth	7
	Romeo and Juliet	8
	Two Gentlemen of Verona	2
	Winter's Tale	2
	Henry IV	4
	King John	3
	Richard II	4
	Henry VIII	3
	Coriolanus	5
	Richard III	2
	Macbeth	5
	The Merchant of Venice	3
Sheridan	The School for Scandal	4
	The Rivals	4
Tennyson, Alfred	Becket	3
	Harold	2
	The Princess	13
	The Holy Grail	4
	Gareth and Lynette	3
	Enoch Arden	4
	Maud	2
	In Memoriam	3
	Launcelot and Elaine	3
	Idylls of the King	13
	Queen Guinevere	2
	Geraint and Enid	4
	The Coming of Arthur	3
	The Passing of Arthur	4
	Locksley Hall	2
Watson (McMillan's)	Poems	2
Whittier	Snow-Bound	3
	Selected Poems	2

Author	*Book*	*Times listed*
Wordsworth	Poems Selected	3
	Ode on Intimations of Immortality	2
	The Leech Gatherer	7
Wordsworth	Lines Written Above Tintern Abbey	2
	Ode to Duty	2
Yeats	The Countess Cathleen	2
Zwangwill, Isaac	The Melting Pot	2

Lists for Natural Science, Travel and Exploration and History and Biography, will appear next month.

A Battle of Wits

JOHN I. HUTCHINSON
Davenport High School, Toronto

UNDER the above title the Davenport High School Literary Society this year staged a most interesting programme. The idea was copied from the Century Club of Toronto, which has made this feature an annual event for several years. It will be found exceedingly suitable for one meeting of any High School Literary Society, and there is no reason why it can not be adapted to the needs of Oral Composition in the class-room.

The "Battle of Wits" is really an Impromptu Progressive Debate. Eight pupils known to be fairly ready speakers are chosen to do battle in this tournament, and their names are written on slips of paper which are folded and placed in a box. A dozen or so subjects are written out on slips in duplicate, and these slips are folded up (keeping them in duplicate) and placed in another box.

A committee of three judges sit in the front row of the audience, ready to vote by ballot on each debate and render an instantaneous decision. The presiding officer acts as time-keeper and scorer, having a card on which are entered the participants' names (one below the other) and sufficient columns to carry forward the winners' names to the last round. The chairman has one assistant to draw and keep track of the names, and another assistant to draw and hand the subjects to the debaters. It is best for the debaters to occupy seats on the platform.

The contest is run off by rounds, something like a tennis tournament. When there are eight contestants, two-and-a-half minutes per speaker is a good time-limit.

The chairman calls upon his assistant to draw and announce the speaker who will take the affirmative in the first debate. Then he asks for the negative speaker to be drawn and announced. Next the chairman asks his other assistant to draw a subject for the first debate. The assistant reads the subject aloud to the adudience, and then hands each of the two speakers a copy (the slips being in duplicate). In order that the first two speakers may have a minute or two in which to think out

points, it is well also to draw and announce at this time the two speakers and the subject for the second debate. This practice can be followed throughout, thus giving the speakers on each debate a few minutes in which to collect their thoughts.

The first debate is then held, the chairman watching the time so that speakers do not exceed their limit. The judges then vote (for affirmative or negative), and the head of the judges' board receives the ballots, stands up, and announces the result (without comment) to the meeting.

This procedure is repeated throughout the debate. If there are eight contestants, four debates constitute the first round and four speakers are eliminated. The losers' slips may be torn up as they are defeated, the winners' are put in an extra box for the next round. Two debates will constitute the second round, two more speakers being eliminated. Then come the finals between the remaining two debaters, and it is well here to allow a pause of a couple of minutes for the finalists to collect arguments.

As pupils may be slow in grasping management detail, a teacher should occupy the chair the first time the idea is tried out.

In a class or club whose numbers do not exceed twenty-four, it is possible to allow everyone to take part if there is considerable time in which to hold the debate, and if a suitably low time-limit is imposed. It is also possible, in a small gathering, to allow all not participating in a given debate to vote with uplifted hand (better have all but the chairman close their eyes) in order to decide each debate.

The best results are attained if good judgment is shown in drawing up the subjects. Make them all easy, interesting, and with two fairly even sides. Alternate the serious with the humorous. If the serious subjects are written on one colour of paper and the humorous on another, the drawer can alternate them. The writer's experience has abundantly proved to him that the element of contest makes the speakers try much harder than when simply taking part in a set programme of individual impromptu speeches. The interest of the audience is also held, and they wonder who will turn out to be the winner.

The society may wish to offer a prize. Proceedings can be given a farcical turn by awarding what is announced to be a valuable cane (it should be boxed or wrapped to look the part) but what turns out, when unwrapped, to be a little candy cane or other fun-provoking object.

Here are the eight subjects used at the last Davenport Literary Society contest:

1. That Municipal Election Day should be changed to a date at least a month away from Christmas or New Year's.
2. That women are more curious than men.

3. That eighteen should be the legal age for boys to attain full adult citizenship instead of twenty-one as at present.

4. That Canada should issue a 2½ cent coin, made of nickel.

5. That the powers represented at Washington should agree to scrap their submarines and ban the use in war of such vessels.

6. That the possession of a Ford car is conducive to happiness.

7. That the modern girl is more attractive than was her grandmother at the same age.

8. That, since the confectioners of Toronto have succeeded in establishing a Candy Day, the market-gardeners would be justified in getting up an Onion Day.

A Picture Study for the High School

S. W. PERRY, B.A.
Ontario College of Education

IN the Art Building of the Canadian National Exhibition in 1917 a picture named "In the Forest", loaned by the French government, attracted admiring groups of lovers of art. It was from the brush of Dagnan-Bouveret who, because of the poetic suggestiveness of his art, has been called the "poet-painter of France". About this delightful picture from the Luxembourg galleries the following questions are asked:

1. Who is the centre of interest? How has the artist emphasized this?

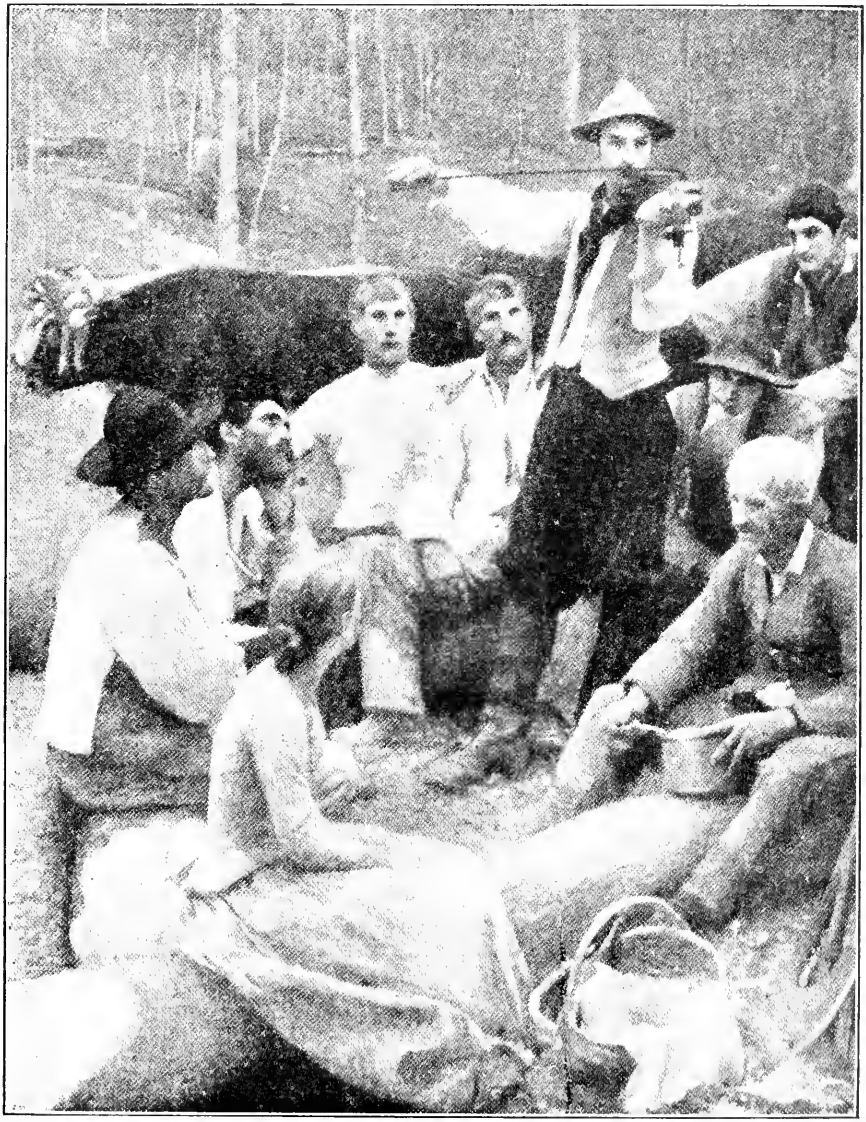
ANS.—The violinist. (1) The rapt gaze of the three persons who face him is directed towards him. (2) The spell of his enchanting music is seen to be upon the remaining five persons who are so seated as not to be able to look conveniently in his direction. (3) His standing attitude singles him out among his seated listeners. (4) The light and dark contrast in his gracefully arranged attire attracts the gaze to him. (5) There is a beautiful movement of line about him. For example, let the eye follow the shoulder line of the persons encircling him.

2. Describe how the artist has indicated (1) the time of day, (2) the character of the light.

ANS.—(1) It is noon-time. This is indicated by the cast shadows which are underneath the objects which cast them. For example, examine the shadow cast by the hat brim, and by the arm of the nearest man. Examine also the shadow side of objects, as the under side of the hat brim, and the under side of the right hand of the violinist.

(2) The light is diffused. The group of people is in the cool shade of the forest; so the light is not bright, and the foliage is so high as not to make mottled light and shade upon the ground and objects below.

3. How has the artist imparted to the violinist a refinement lacking in the rest?



IN THE FOREST

In the Luxembourg

Dagnan-Bouveret

Ans.—(1) By the graceful poise of his upright figure. (2) By the beautiful lines of his outstretched arms. (3) By the tasteful arrangement of his homely garments. Note especially the contrast in tone of necktie, shirt, vest and trousers. Note the grace imparted by the loosely knotted necktie, the neat hang of the unbuttoned vest, the curves of his tucked-in trousers, and the backward tilt of his hat, thus exposing a high brow and a noble face.

4. In what ways has the artist employed trees, hillside, and oxen in the working out of his composition?

Ans.—These form an appropriate background. The woodmen have about completed their noonday meal brought to them by the girl in the group. One of their number, a musical genius, supplies the entertainment while they rest. What more appropriate than that the oxen, associates in their logging toil, should stand by listening, and that the silent hillsides and woods, the scene of their labour, should shut in from the outside world this interesting group? Notice how the backs of the oxen and, again, the top of the distant hill by horizontal lines give repose to the picture and confine the interest below them. Notice how the tree-trunks by their well-chosen position and by their varying size give depth to the picture. Notice, too, how the dark hide of the nearer ox brings into strong relief the figures of an interesting group of listening men.

5. From two different viewpoints give this picture other titles.

Ans.—(1) If the centre of interest be kept especially in mind the picture might be named "The Violinist", or "The Forest Musician." (2) If the effect of his playing on his comrades be considered the picture might be named "Enchantment" or "The Power of Music."

A Bibliography for Teachers and Students of French

PROFESSOR W. C. FERGUSON
Ontario College of Education, Toronto

(Note.—Prices in most cases are pre-war prices)

Pronunciation and Phonetics

Rippman.—Elements of Phonetics, English, French and German. J. M. Dent & Sons, London and Toronto. 90 cents.

Passy.—Sounds of the French Language. Translated by Savory and Jones. Oxford University Press. London and Toronto. 60 cents.

Bascan.—Manuel Pratique de Prononciation Française. J. M. Dent & Sons. 65 cents.

Bascan.—Lectures Dictées de Phonétique Française. J. M. Dent & Sons. 30 cents.

Rousselot.—Précis de Prononciation Française. Published in Paris. Price in Canada about $2. A standard work.

Dumville.—French Pronunciation and Diction, new edition, 1912. $1. J. M. Dent & Sons. London and Toronto. From the English viewpoint.

Passy.—A French Phonetic Reader. University of London Press. 60 cents.

Althaus.—Petit Cours Préparatoire. A. & C. Black, London. A two term course in Phonetics.

Geddes.—French Pronunciation. Oxford Press, Toronto. $1.50. From the American viewpoint.

Richards.—French Phonetic Reader. J. M. Dent & Sons, Toronto. Many of the extracts, printed in phonetic type as well as in Roman alphabet, are in the New High School French Reader.

There are also a great number of texts and readers now published in phonetic type which might be of interest to the progressive teacher. Lists may be obtained from the following firms on application: J. M. Dent & Sons, Toronto; The Macmillan Co., Toronto; G. Bell & Sons, Kingsway, W.C., London; A. & C. Black, London; George G. Harrap & Co., London; Blackie & Son, London; Rivingtons, London; Charles Scribners' Sons, N.Y.; Henry Holt & Co., New York.

Wall Pictures and Charts

Dent's Wall Pictures of the Four Seasons. Printed in colours. 55 by 35 inches. Mounted on linen and eyeletted. $1 each. Mounted on linen with rollers. $1.75 each. (To accompany Dent's First French Book.) J. M. Dent & Sons, London and Toronto.

Subject Wall Picture. Coloured. 60 by 40 inches. Mounted on rollers. About $2. (To accompany McKay and Curtis' First French Book.) G. Bell & Sons, Kingsway, W.C., London.

Trente Histoires en Images sans Paroles. En tableaux muraux. Collection en noir. 17 francs. Collection en couleurs. 25 fr. Librairie Fernand Nathan, 16 & 18 Rue de Condé, Paris. This excellent series is accompanied by a little explanatory book, "Pour raconter les Trente Histoires en Images de Jean Perrot et Fernand Fau". Prix, 40 centimes.

Dent's Phonetic Charts. 30 by 30 inches: (1) Les Sons du Français; (2) Deutsche Laute. Mounted on linen. Each 75 cents. Mounted on rollers, $1. J. M. Dent & Sons, London and Toronto

Wall Picture. Coloured. 60 by 40 inches, to illustrate "Preliminary French Book". The Macmillan Co., Toronto. About $5. An excellent picture of French village life.

Leçons de Choses et de Langage. 10 tableaux; L'Ecole; L'Habitation à la Ville; Le Printemps, etc. Armand Colin, Paris. Notice explicative pour chaque tableau, par E. Simonnet.

Les Premiers Pas à l'Ecole: tableaux muraux. Collection de 12 tableaux muraux (87 x 61) en couleur; la vendange, les semailles, le feu, etc. Armand Colin, Paris. Chaque tableau sur carton bordé toile et oeilleté 55 fr.

Livre pour la Maitresse. Plans de Leçons et Exercices d'après les Tableaux Ruty, avec nombreuses gravures. 4 fr. Armand Colin, Paris.

Coloured Wall Pictures to accompany La Première Année de Français. No. 1, La Famille Pascal à Table. A domestic scene. No. 2, La Porte Saint-Martin à Paris. A street scene. Measurements: 45 by 35 inches. Varnished or unvarnished. Prices: On linen, with rollers, 7s. 6d. net each; on linen, 5s. net each; unmounted, 3s. net each. A. & C. Black, Limited, London.

Oral Work and Conversation

Walter.—French Lessons. Charles Scribners' Sons, New York, 1912. 50 cents. A series of lessons by the Direct Method given to a class at Teachers' College, Columbia University, New York, reported verbatim by Miss Ballard. Very suggestive and helpful.

Walter & Ballard.—Beginners' French. Charles Scribners' Sons. $1.50.

Curtis & Robert.—Oral Lessons in French, in five parts, each about 15 cents with Teachers' Manual for each part. 25-35 cents. Renouf Pub. Co., Montreal.

Thouaille.—First Steps in Colloquial French. Blackie and Sons, London and Glasgow. 2s. School and home life described and discussed in the language of every day.

Smith.—A First Year's French Book on the Oral Method. Blackie & Son, London and Glasgow. 1s. 6d. Excellent for beginners.

Mackay and Curtis.—First French Book. G. Bell & Son, Kingsway, London. 1s. net. A good book for beginners.

Ballard.—Short Stories for Oral French. Charles Scribners' Sons, N.Y. 75 cents.

Baguley.—First Lessons in French. Edward Arnold, London. 50 cents. Full of excellent material.

Siepman and Vernols.—Preliminary Lessons in French. The Macmillan Co., Toronto. 45 cents. One of the best beginners' books. Good illustrations. Wall picture to accompany this book.

Vizetelly.—A Child's First Steps in French. Isaac Pitman & Sons, Toronto. 50 cents.

Ceppi and Jones.—Le Français. A beginner's book by Direct Method. Very practical and ingenious. George Bell & Sons, London. 3s. 6d.

Gourio.—La Classe en Français. Houghton Mifflin Co., New York. $1.52. An excellent course laid out by an experienced teacher of the Direct Method.

Gourio.—The Direct Method of Teaching French. Teacher's manual to accompany the above. Houghton, Mifflin Co. 80 cents. Very helpful and suggestive.

Kirkman.—La Première Année de Français. A. & C. Black, Limited, London, 1921. A new edition of a text-book very popular in England.

(Lists of books for Supplementary Texts for Lower, Middle and Upper School, Dictionaries and easy books on French life, manners and customs, will appear next month).

From the Board's Point of View

An Ontario Consolidated School

The following account of the organization and progress of the Tweed Consolidated School by Mr. J. F. Houston, the Secretary-Treasurer of the school, appeared recently in the *Canadian Statesman*, Bowmanville. In view of the widespread discussion of the question this account of the experience of one consolidated school will prove highly interesting.

Tweed Consolidated School was put in operation September 1st, 1921, with an attendance of about 210 pupils. The Consolidated Section consists of Tweed Village, the rural part of Tweed Section and Hungerford School Section No. 5.

The School is situated in Tweed Village, in the centre of Tweed Section, which has an area of about eight square miles. S.S. No. 5 is directly south of Tweed and has an area of about twelve square miles. The building, which is of brick, was erected in 1898. It has six class-rooms, and with some improvements to the heating and plumbing makes a very suitable building for a Consolidated School.

S.S. No. 3, situated directly west of Tweed, and having an area of about twelve square miles, is considering Consolidation. If they unite it will be necessary to erect one or two more class-rooms which, with the heating and plumbing for the present building, will cost from $16,000 to $18,000. The total debt on the Section at present is about $7,000 which, if added to the proposed expense, would make a Capital Account of about $25,000. The Government grants amount to $10,500, leaving $14,500 to be raised by twenty year debentures, requiring a rate of about 2 mills for this purpose.

Transportation from S.S. No. 5 is handled by two motor busses which cost $2,400. Forty pupils are carried, thirty to the Consolidated School, five to Separate Schools, and five to High Schools. The vans call at every farmer's gate. Transportation, including interest, depreciation and all other items, costs less than $2,000 per year,

$50 per pupil or $10 per pupil enrolled. Of this amount the Government pays 30 per cent. The children are not more than half an hour on the road and are comfortable and delighted. The parents are well satisfied, although there was considerable opposition at first.

When the country pupils started it was found that they were fully one year behind the pupils of Tweed graded school. Their average attendance now is about 95 per cent. Manual Training, Household Science and Agriculture are taken up. Hot lunch is served to those who cannot go home at noon. Special attention is given to recreation. Four swings, two giant strides, three teeters, sand box, a chute or slide, football, basketball, and baseball are supplied. As a result the children are more contented and find it a pleasure to go to school. On the whole, the people of Tweed Consolidated School Section are well satisfied with the results of the school.

The cost of maintenance is $36 per pupil, or with 2 mills for debenture rate, the cost is $42 per pupil.

School Health Supervision

A circular issued recently by the Ontario Department of Education contains the following suggestions on School Health Supervision:

"The Provincial Department of Education appreciate in the fullest degree the need for School Medical and Nursing Service, and suggest the following practical solution of the question of its establishment in the rural and smaller urban centres, namely, a union of sufficient of these School Sections to make a compact group of say 30 to 40 class-rooms, which group can employ a school nurse who will give her entire time to the work. She would arrange a schedule and visit each of the schools, so many times a term, from once every two months to once a week, depending on the size of the school, and the need of each section. She would examine as thoroughly as possible the children present, and check up her findings with the history of previous illness and the attendance record of the child, and the teacher's report of his or her progress. She would then confer with the parent if she judges the child to be physically subnormal, leaving the question of diagnosis and treatment, when necessary, to the family physician and the parent. This plan is being satisfactorily carried out in several parts of the Province at the present time, and has no insurmountable difficulties in the way of its extension to many other districts."

"The assistance of the Department can be obtained in making an initial survey of the district, or aiding in the establishing of the service in any community. And where the service is efficiently carried on, according to the regulations of the Department, a liberal annual grant is awarded".

Milk Rations for School Children

W. F. KIRK
Principal, Jesse Ketcham School, Toronto, Ontario

JESSE Ketchum School situated about the centre of Toronto has a personnel almost entirely Anglo-Saxon. The frequency of undernourished children led to the selection of 48 children conspicuously underweight for the supplementary feeding of one half-pint of milk twice per day.

At morning and afternoon recess periods at first dismissal gong the selected pupils went at once to the lunch room, where each was given the half pint bottle with a straw. On completing the ration each pupil went on out to recess and came in with the lines, thereby avoiding loss of school time or disturbance of classes. Pupils were weighed fortnightly to note gain.

All except two showed a marked gain. The average gain was three pounds in a period of forty school days. The greatest individual gain was 8 ¼ lbs. Some children who had previously not liked milk acquired a liking for it. A marked improvement in appearance, disposition, and interest in proper diet was noticed.

The following extracts from reports of the teachers of the pupils concerned would show the value of this supplementary feeding from the standpoint of the teacher:

1. Much more regular in attendance, more interested in work, able to concentrate for a longer time, hand control much improved, tries to compete.

2. I can notice an improvement in ability to work, general health and happiness.

3. One has an increase of 25 per cent. in the months marks. All seem happier and less listless.

4. Much healthier, brighter and quicker, lost a don't care attitude.

5. Marked improvement in general alertness, physique, and mental capabilities.

6. They have improved greatly, both physically and mentally. In place of listlessness there is now an active interest in all work. The eyes are brighter and the skin a brighter colour.

7. They not only work better and get along faster and more easily with their work, but they are more active in play and take more interest in life.

8. There has been in every case a decided improvement in their ability to do work. They are brighter and more alert.

Household Science in a Rural School

ISABELLA ABBOTT
Wilberforce, Ontario

THROUGH a pamphlet published by the Department of Education, and received by almost every teacher each year, teachers may learn of the special courses given in Summer Schools for their benefit. Household Science is one of the many courses that may be taken. The course in Household Science consists of Part I and Part II, each part covering the work of one summer course, about five weeks in length. The Department refunds to the teacher travelling expenses and an allowance for living expenses while attending the Summer School. After taking part I the Department expects the teacher to begin teaching the subject at once. To the school where Household Science is taught the Department gives the first year a grant of $40.00 to be used in providing equipment for the teaching of the subject.

The equipment purchased by our School Board was—1 granite dish pan, 1 granite draining pan, 1 aluminum kettle with lid, capacity about 6 quarts, 1 aluminum sauce pan, 1 long handled soup ladle, 1 large iron spoon, 1 wooden spoon, 1 vegetable grater, 1 soup strainer, 1 large bowl, 1 large pitcher, 2 pairs salt and pepper shakers, 2 dozen cups and saucers, 2 dozen soup plates, 2 dozen teaspoons, sewing needles, pins, scissors, thimbles, tape, emery bags, Java canvas. Many little things we needed were given by different parents. A cupboard was also bought to hold the equipment. The purpose of teaching Household Science is to give the pupils instruction in various household tasks so that better living conditions may be secured in the home, to emphasise the beauty and sacredness of home so that pupils may be impressed with the importance of putting their best work into their daily household tasks; to give pupils some insight into the sanitary, economic, and social problems involved in housekeeping. Two important things to be taught are cleanliness and neatness.

The pupils are very sympathetic and interested and, I find, always look forward to these lessons. In our school the first lesson consisted of a talk on why we were going to study Household Science, what we would try to learn, and the need of trying to practice the lessons taught. These lessons would supplement mother's efforts at home. We closed this lesson by deciding to take as our next topic "The Kitchen." Each pupil was to draw a plan of the kitchen at home and bring the plan to class next lesson. Several of these plans were put on the blackboard at the next lesson and we discussed each as to location, size, equipment,

ventilation, lighting, with the thought in mind that a kitchen should be planned so as to save time, strength, worry, and to make conditions as pleasant as possible. Other lessons followed on "Care of Food in the Home," "Rural School Lunches," "Setting a Table," "Waiting on Table," "Cleaning of a Room," "Disposal of Waste," "Uses of Old Paper," "Terms, Measurements, and Abbreviations used in Cooking, etc." I gave a few simple recipes and had pupils do the preparing and baking themselves at home and bring samples of these to me the next day. The result was quite satisfactory.

Lessons in sewing are also given especially emphasizing posture, neatness and cleanliness. These lessons are practical including the use of tools and the names of materials used in sewing. Then come lessons on the application of basting, hemming, darning, patching, sewing on buttons, and making of button holes.

Then, too, we have lessons in "First Aid" work and what to do in case of fainting, burns, scalds, frostbites, sprains, cuts, drowning, and poisoning from different causes.

If the teacher chooses, and it is very desirable that she should, she may in connection with the teaching of Household Science, serve a hot dish at luncheon to the pupils remaining through noon hour at school, during the months from November 1st till Aptil 1st. The hot dish should be something simple as a cup of cocoa, different kinds of soups, eggs creamed, baked, or soft cooked, custard, or boiled rice and milk.

The materials to be used in making these hot dishes may be provided by the parents, and brought by the children each morning or, better, still each family may bring a small quantity of different kind of vegetables and meat to a home near the school where it will be convenient for the pupils or teacher to get each morning the supply for the day. We found that it was a good plan to decide on Friday what hot dish should be served on each day of the following week, as:—Monday, potato soup; Tuesday, custard; Wednesday, creamed potatoes; Thursday, tomato soup; Friday, cocoa, or Monday, rice and milk; Tuesday, vegetable soup; Wednesday, egg broth; Thursday, apple sauce; Friday, cheese soup. Pupils are always very willing to help prepare the food either before nine o'clock or at intermission; in fact, after the first two weeks the pupils in turn become responsible for the preparing of the hot dish. The serving of this hot dish is optional with the teacher but it is a good supplement to the teaching of Household Science. For teaching Household Science the teacher receives a grant of $20.00 (providing she has satisfactorily completed the work of one summer Course in Household Science, provided by the Department) and for the serving of the hot lunch an additional grant of $10.00 from the Department, not as pay but as an acknowledgement of their appreciation. When the hot

lunch is served there is a marked improvement in the way pupils work in the afternoon. They are more willing to go out and play for the remainder of the noon hour; they play more agreeably. Pupils do not look or act so fagged and weary when winter term closes as they did when hot lunch was not served.

You must not think the ratepayers are accepting this new thing without some objections; one of my trustees withheld his consent altogether. The other two trustees were in favour. One of these was a lady (my first experience with a lady trustee); would that there were more like her in every school in our country. One ratepayer said he thought Household Science a good thing but he had no children in school so would not approve of it. Another said he thought when his children smelled the hot dinner in preparation they would be thinking of a nice dinner and not of their lessons so he objected. Another said he could feed his own children and objected to a teacher interfering. Another said he got his schooling and ate a cold lunch and he would see to it that his children did likewise. The children from some homes were forbidden to partake of the hot dish. We noticed that the mothers were much pleased with the whole thing. So the objections all came from the fathers.

But in spite of the objections and extra work entailed, I have enjoyed the work since I began it in September, 1920. Teachers will enjoy teaching Household Science and will not be sorry to have added one more subject to their already crowded time-table.

Recent Magazine Articles and Reports on Education

Practical English, by Harold H. Scudder, stresses the importance of literature as opposed to composition in high schools and colleges. *The Educational Review, December, 1921.*

Federal Participation in a Health Programme for Schools, by E. Blanche Sterling, of the United States Public Health Service. *The Elementary School Journal, December, 1921.*

Reading Material for Pupils of the Fourth and Fifth Grades, by Mary L. Perham, State Normal School, Salem, Mass. It gives lists of about 240 books suitable for the grades mentioned. *The Elementary School Journal, December, 1921.*

Properties of Materials: An Introductory Course, by C. A. Carus Wilson, M.A., gives an outline of a course of lessons on Properties of Materials regarded as an introduction to physics. *The School Science Review, published for the Science Masters' Association by John Murray, Albemarle Street, London, W. December, 1921.*

Books for the Science Library, a review of the List of Science Books suitable for School Libraries (obtainable from Rev. J. T. Kirkland, Kings' School, Ely, (price 1s. 1d.). *The School Science Review, December, 1921.*

The Scientific Technique of Curriculum-making, by Charles H. Judd: His address as Vice-president and Chairman of the Section on Education, American Association for the Advancement of Science, Toronto, December, 1921. *School and Society, January, 1922.*

A Score-card for Student-Teaching, by A. R. Mead, Ohio Wesleyan University, Delaware, Ohio. A bibliography is added to the article. *School and Society, January 7, 1922.*

The Professional Status of Teaching, by Walter R. Smith; Spinning Sand, by E. A. Cross. Both these articles discuss the question: "Is teaching really a profession? If it is not now a profession, how can it be made so?" *The Educational Review, January, 1922.*

Home Geography and the Problem Method, by Alice M. Krackowizer, Supervisor of Grades in the Public Schools, Lewiston, Montana. *The Journal of Geography, December, 1921.*

The Limitations of the Project, by W. W. Charters, Carnegie Institute of Technology, Pittsburgh, Penn. *The Journal of the National Education Association, January, 1922.*

Locating the Consolidated School, by Ross B. Johnston, "When the schools are used for grade purposes alone, it is usually left as a rural district proposition. But the location becomes debatable when high school accommodation for country boys and girls comes up for considera. tion." *The Journal of the National Education Association, January, 1922-*

Book Reviews

Senior High School Algebra, by Professor J. T. Crawford, of the College of Education, University of Toronto. Cloth, 270 pages. Toronto, The Macmillan Company. Price $1.25. This text will fill a long felt need of the teachers of mathematics in Canada, and especially in Ontario, covering as it does all the work in senior algebra required for Honour Matriculation into any Canadian University.

A great many of the texts on the work required commence with ratio and proportion, and very soon the student meets with some rather difficult questions which are apt to discourage him. To avoid launching the student into too many difficulties at first some teachers start with progressions while others begin with equations. The author has shown good judgment in beginning the text with a chapter on equations, which connects the new work with the previous work done

by the student. Then follows arithmetic progression, which is a fairly easy section of the senior algebra for all students, and it is made easier by the grading of the questions as to difficulty. So in the first two chapters of the work the student is introduced gradually into the senior algebra and experiences little trouble with the work.

As the *Senior High School Algebra* is intended to follow up the work of the *High School Algebra* by Professor Crawford, Chapter VII on Surds, Chapter VIII on the Theory of Equations, and Chapter IX on Maxima and Minima contain a good review of this part of the work to be studied and also treat of the advanced work on these topics in a very clear and lucid manner. Permutations and combinations are dealt with in an interesting way. This year the fifth form of the University Schools followed the text on this topic and instead of the subject being a difficult one for the student, every member of the class found the work exceptionally interesting. All the well-known sections of the binomial theorem are clearly explained. The author very wisely leaves out the proofs of the binomial theorem for a fractional exponent and for a negative exponent. No examiner would think of demanding these proofs from honour candidates pursuing the subject for one year only. Annuities are treated in Chapter XIV and the clear treatment of the subject is a strong feature of the text. Nearly all the other texts covering the senior algebra course which treat of this topic are out of date in their notation and in the character of the problems they contain. The author treats this subject in a modern way and the problems given furnish the teacher with an abundant supply of material and suggestions for other problems. At the end of the text will be found amount, present-worth, logarithm and mortality tables which will be a help to the student in dealing with the problems on these subjects.

A good collection of miscellaneous examples concludes this splendid text. This text can be heartily recommended to all teachers of senior algebra. It is the latest and the best text on this work. The clearness of explanation of theorems and of type problems, the graduation of the examples in each exercise and of the work on each topic, the modern treatment of annuities, sinking funds, depreciation funds, etc., will, I am sure, commend it to all teachers, and also to all the students who study this part of the subject of algebra whether privately or in school.

W. J. L.

Human Behaviour, by Stewart Paton. New York, Charles Scribners' Sons. Pp. V+465. Price $6.00. The sub-title of this important work—*In relation to the study of educational, social and ethical problems*—gives a clue to the width of the field the author has traversed. As a matter of fact there are so many references to the literature of the subject, English, German, French, Russian and Italian, that the reviewer

pauses and wonders that "one small head could carry all he knew." To be frank, one feels that if Dr. Paton had not read so widely, he would have produced a better book. There should have been, as it were, more Paton and fewer authorities in it.

Dr. Paton is a medical man and a technical terminology comes easily to him, but its use makes the book hard reading for the layman. The style reminds one forcibly of that of G. Stanley Hall. Notwithstanding these inherent difficulties the reader will be well repaid for any struggle that he may make in reading it. *Human Behaviour* is chock full of good matter and suggestive ideas. The chapters on Adjusting Mechanisms, Special Mechanisms of Adjustment, Habit Formation, Involution of the Personality, Imperfect Organization of Activities, to mention a few, are both novel and stimulating. Throughout the volume Dr. Paton insists on the unity of the organism and shows repeatedly that one cannot neglect this factor even when making the most detailed analysis of behaviour. This attitude is wholesome and correct. The work of Jung and Freud are considered sympathetically, but the author cannot follow them into extreme positions. To sum up: Dr. Paton remains sane, judicial and critical throughout the entire work. And that is a great contribution. P. S.

Book Notices

The Old Mine's Secret, by Edna Turpin. Cloth, 288 pages. Price $1.75. Toronto The Macmillan Co. of Canada, Ltd. A good story for boys.

A Junior Spanish Reader, by H. C. L. Balshaw. Cloth, 183 pages. Price 3/6. London, Methuen & Co., Ltd. Contains over 100 verse and prose selections, and is annotated with notes and vocabulary.

Eothen, by A. W. Kinglake. Limp cloth, 312 pages. Price 2/6. London, Methuen & Co., Ltd. This reprint of a well known book of travel is the latest addition to Methuen's English Classics.

Stories from French History, by Eleanor C. Price. Cloth, 255 pages. Many illustrations. Price 6s. net. London, George G. Harrap & Co., Ltd. An attractive book of stories written for children, suitable for a gift.

Favourite French Fairy Tales, by Barbara Douglas and illustrated by R. Cramer. Cloth, 256 pages. Price 7/6. London, George G. Harrap & Co., Ltd. This volume contains eleven fairy tales retold from the French of Perrault, Madame D'Aulnay, and Madame Leprence de Beaumont. An attractive book for children.

Practical Mathematics, by A. Dahin. Cloth, XXV+362 pages. Price 5/. London, G. Bell & Sons, Ltd.

Plane Geometry, Vols. I and II, by V. L. Foster. Cloth, VIII+223 and VIII+423 pages. Price 3s. per vol. London, G. Bell & Sons, Ltd. These are texts for secondary schools and contain long lists of useful examples.

The Use of Graphs in Commerce and Industry, by A. Risdon Palmer, B.A. 47 pages. Price 2s. Also *The Import Trade*, by the same author. 45 pages. Price 2s. Published by G. Bell & Sons, Ltd.

Changes in Social Life, by George Guest. Cloth, 187 pages, illustrated. Price 2/4. London, G. Bell & Sons, Ltd. This is a simple account of the people of Britain, intended for Standard IV of English Schools. It is the third volume of Bell's *Ladder in History*.

Games and Play for School Morale, a course of graded games for School and Community Recreation arranged by "Mel" Shepherd and Anna Vaughan. Published by Community Service, 1 Madison Ave., New York City.

The Romance of Building, by Allen S. Walker. Limp cloth, 248 pages, illustrated. Price 2/6 (cloth boards 3/6). London, George Philip & Son, Ltd. This is a short outline of architecture in England.

Notes and News

Ontario

From the Ontario Public School Men Teachers' Federation

H. A. HALBERT, B.A., SEC'Y

The Ontario Public School Men Teachers' Federation will hold their annual meeting Wednesday, April 19th, from 9 to 12 a.m. The following order of business will be followed: Opening exercises; the reading of minutes of last annual meeting; report of the Secretary-Treasurer; reports from each of the district chairmen; President's address; report from Canadian Teachers' Federation; new business. Under this order the question of a paid organizer, Board of Reference, fees, and amendments to the constitution will be discussed.

Owing to ill health, Mr. J. Graham, Durham, has resigned as chairman of district No. 7. In his place Mr. Elgin A. Ruttle is acting organizer of the district.

A report has been received from the Minister of Education stating that the matter of Group Insurance for the teachers of the province is receiving his full consideration.

An appeal was made in the March issue of THE SCHOOL for news of interest to our members. The Secretary is desirous of such before the tenth of each month.

The combined executives of the Principals, Assistant Masters and the M.T. men of Toronto met recently at the Central "Y" and planned to "get together" at dinner with the idea of forming a Toronto Wing of the Ontario Public School Men Teachers' Federation. Col. Michell has promised to give a twenty-minute talk on the work of the H.S. Federation. The dinner will be held on Tuesday, April 4th, at 6 o'clock, at the Waverley Hotel, and will cost One Dollar each. All teachers concerned are invited to attend.

Lt.-Col. W. C. Michell will address the Easter Meeting of the Manitoba Educational Association on The Teacher and the State.

THE ANNUAL REUNION OF

THE COLLEGE OF EDUCATION (Formerly Faculty of Education) will be held on **Wednesday, April 19, 1922.**

To our graduates:—

The "Faculty" Reunion this year is going to be a greater event than ever and we want every graduate to rally to this notable function. A slight change is being introduced into the programme. You are probably not aware that we are likely to have a handsome addition to our building and then you will hardly know the old institution. We thought perhaps you would like once more to walk through its corridors and sit in its *magnificent, well-ventilated* Assembly Hall before it is torn down. So we propose this year to have the concert in the Assembly Hall of the College of Education Building, corner of Huron and Bloor Streets, from 4 p.m. to 7 p.m., and then to walk over together to Hart House for the dinner, the dance, and the athletic performante.

The athletic performance will be different from any given at former reunions. The famous Swimming Club of the University of Toronto will give an exhibition of aquatic sports, including a demonstration in the management of a canoe, as given so successfully before the American Association for the Advancement of Science. There will also be demonstrations of boxing and gymnastic work.

As the number of places at the dinner tables is strictly limited, and as there promises to be a larger attendance than ever, you are recommended to notify the Secretary at once if you are going to attend.

GEORGE A. CORNISH, *Chairman.*

Programme

4 p.m.-7 p.m. —Social gathering, two short plays, and music in College of Education Building, corner of Huron and Bloor.

7 p.m.-8.30 p.m. —Dinner in the Great Hall, Hart House.

8.30 p.m.-11 p.m.—Dancing in Gymnasium, athletic exhibitions, and inspection of Hart House.

Tickets $1.50 each.

Secretary, Reunion Committee,
371 Bloor St. West, Toronto.

I intend being present at the reunion. Enclosed find $ for which send .... tickets to

Name.....

Address.....

On Tuesday, March 7th, Dr. John B. Turner, who had been a member of the staff of the Hamilton Collegiate since 1885 and for some years Principal, died suddenly while at his office in the Collegiate Institute. Dr. Turner was a graduate in Arts of Queen's University, and a specialist in Science and Mathematics. Some years ago Queen's University conferred on him the honorary degree of Doctor of Laws in recognition of his long and efficient service to education in Ontario.

Mr. D. A. Campbell, B.A., Director of Technical Education for Alberta, has resigned his position to accept an appointment as Principal of the Sarnia Collegiate Institute and Technical School, at a salary of $5000

Quebec

The Protestant Committee of the Council of Public Instruction met at McGill University on February 24th. It was announced that forty thousand dollars would be placed at the disposal of the Committee for the benefit of Protestant education. The Committee therefore appointed a small sub-committee to bring in recommendations concerning the distribution of this fund.

Inspector I. N. Kerr, Hatley, Quebec, who has for many years been inspector of Protestant schools of Gaspe County, has resigned his position. It is extremely likely that the inspectoral districts of Gaspe and Bonaventure will be united to make a full-time inspectorate.

The salaries of Protestant inspectors will be increased next year, the increase being $200 after five year's service and $400 after ten years' service. Most of the Protestant inspectors will benefit by the maximum, as the increase is retroactive.

Arrangements have been made for oral examinations in French in the Montreal and Westmount High Schools as part of the school-leaving examination work. The school inspectors have also had arrangements made by the Department of Public Instruction for a course extending over a week in methods of teaching French to English pupils. This course will be given in the schools by the best teachers.

The text-books and course of study for the province have been authorized for another year with few changes. The proposed Memorandum of Suggestions for teachers in connection with religious instruction was discussed and finally laid on the table, owing to the

absence of unanimity of the Committee concerning purpose, method and content of such a course.

The Text-book Committee was reconstructed and increased with Dr. J. A. Nicholson as convener.

Nearly sixteen thousand dollars were distributed among poor municipalities which exist in nearly every county in the province, particularly in Bonaventure, Gaspe, Labelle, Pontiac and the Canadian Labrador.

The length of time for examination in the School-leaving Examinations has been extended from two hours to two and a half hours, but the character of the papers will remain as heretofore. That is, they will be neither more difficult nor longer. The revising committee was also increased from four to six members.

Regulation 24-G has been amended by the insertion of several words. This regulation now makes it plain that the five years' teaching experience required of elementary teachers before they can pass the examinations for a model diploma under this regulation, must be taken after they have obtained their elementary diploma, and that teaching experience before their normal training will not be counted.

The Montreal Protestant Board has announced the building of the new Royal George School in Notre Dame de Grace, consisting of thirty standard class-rooms and other special rooms.

Royal Arthur School, Montreal, will also be increased by an addition of twelve class-rooms.

Manitoba

The Manitoba Trustees' Association held its annual convention on February 28th, March 1st and 2nd in Winnipeg. There were about five hundred trustees present and valuable papers and addresses were given. Mr. W. M. Morris, Secretary of the Ontario Schools Trustees' and Ratepayers' Association, was present and added much to the value of the convention. Among the valuable suggestions he made was one for the formation of a Dominion-wide Association of School Trustees. This organization will undoubtedly be formed at an early date. Mr. H. W. Huntly was present and represented the Manitoba Teachers' Federation. On the Monday evening, before the convention representatives from the M.T.F. met the executive of the Trustees' Association and held a round-table conference on (1) Tax Adjustments; (2) Efficiency

of the Teaching Profession; and (3) Status of the Teaching Profession. These were discussed at length and progress in their solution reported. The salary question also came up for consideration, and it was felt by both organizations that the efficiency of our schools demanded that no reduction in Teachers' salaries should be made, even if the question of taxes was so pressing. The committee representing the teachers consisted of President Marshall, Major C. K. Newcombe, H. W. Huntly, C. W. Laidlaw and G. J. Elliott.

Just now Brandon is the storm-centre in the matter of teachers' salaries. On Monday, February 27th, after consultation with the city council, the School Board of Brandon met the teachers and after explaining the financial situation of the city presented the following motion: "That it being apparent that the Board's revenue will not put it in funds for payment of more than 75% of the teachers' schedule, the teachers and superintendent be asked to consider the situation and ask a present reduction of 25% effective March 1st, 1922, subject to the possibility of addition by way of bonus if revenue available for the year will in the judgment of all the Board permit it. Failing immediate agreement that notice of termination of contracts be given on or before May first, 1922". The chairman declared this to be "an ultimatum". The teachers were given until Saturday, March 4th, to consider the matter in all its bearings; and after doing so at the meeting held on that date, the teachers stated that they could not accept the "cut" demanded by the Board. The consequence is that all contracts are terminated and on April 30th the teachers of the public school, collegiate institute, and special departments, as well as the superintendent, will be dismissed, unless steps are taken to solve the question before that date. While the financial situation may be serious yet it is improbable that the people of the city of Brandon will permit the matter to go so far as that. The city council is making a $12\frac{1}{2}\%$ reduction on all salaries of civic employees, abolishing the office of city engineer, cutting down the city hall staff and reducing appropriations in all departments. They hope to save $47,971. The School Board proposes a 25% reduction on salaries of all teachers, the superintendent and the secretary-treasurer, 10% reduction on salaries of janitors and school-building supervisor; to abolish manual training, domestic science and commercial courses; art teachers and twelve teachers to be released; and a possible closing

down of physical training and Grade XII in the collegiate. The Board thus would save $41,440.

New Brunswick

Dr. W. S. Learned, Assistant Secretary of the Carnegie Foundation, New York City, in November last visited the universities in the Maritime Provinces, relative to matters of mutual interest to the universities and the Carnegie Foundation.

The first Convention of School Trustees of New Brunswick was held in the Normal School building in Fredericton on the 17th and 18th of November last, and was a decided success. About 150 representatives of School Boards from all parts of the Province were present. The opening addresses were given by Dr. Carter, Chief Superintendent of Education, and Premier Foster. Mr. Wm. Iverach of Isabella, Manitoba, made several addresses and gave valuable assistance to the Convention. Many matters of importance were considered, such as, consolidation, provincial valuation for school purposes, salaries of teachers, increase of County Fund Assessment, and the inadvisability of general education, vocational education and agricultural education, being as at present in New Brunswick, under different administrative heads. A Trustees' Association was permanently organized, with the following officers: W. J. Mills, Sussex, President; Arthur Williams, Vice-President; J. S. King, Hartland, Secretary-Treasurer; and F. Blanchet, Rothesay, Auditor.

Miss Josephine McLatchey, M.A., for the last two years editor and proprietor of the "Educational Review" with headquarters at Moncton, has disposed of the "Review" and has accepted a position as editor of the "Bulletin", issued by the Bureau of Educational Research of Ohio State University, Columbus, Ohio. H. H. Stuart, Moncton, is now Editor and Manager of the "Educational Review".

A commercial department has been opened by the Moncton School Board as a part of their High School Course. Mr. W. McL. Barker, M.A., is in charge of this branch of the work.

The New Brunswick Legislature is now in session. The Speech from the Throne foreshadows among other things a new Pension Bill for teachers. Its provisions, if adopted, make more generous allowances to teachers than the Act now in force.

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The School

"Recti cultus pectora roborant"

Editorial Notes

The Superannuation Act

The Ontario *Teachers' and Inspectors' Superannuation Act* provides for an actuarial valuation of the fund every three years and promises certain additional benefits to teachers as soon as it appears from these valuations that these benefits may be extended without impairing the solvency of the fund. Owing to difficulties in obtaining information required by the actuaries, chiefly the ages of teachers concerned, the results of the first actuarial valuation have been somewhat delayed but are now available in a pamphlet issued by the Superannuation Commission. After a summary of the chief conclusions of the actuaries' report, the Commissioners make the following observations and recommendations:

"Thus the fund began in April, 1917, with a deficit of approximately $3,000,000 which in July, 1921, had decreased to less than $2,000,000 therefore there has been a reduction of $1,200,000 in the four and one-quarter years during which the fund has been in existence. It is plain that if the fund were continued on the same terms as in the past, it would be a matter of only a few years before the deficit would be entirely wiped out and the full benefits provided in the Act could be granted. But the Commission is of the opinion that, even at the risk of postponing the day when there would be no deficit, the provisions of the Act should be brought into operation as speedily as possible. As the first extension of benefits mentioned in the Act is the return of contributions of teachers who withdraw after having given five years of their service, this clause should receive first attention. The Actuary assures us that, at this stage, it would be out of the question to repay these contributions in full, but that half the contributions of those who retired from the profession after April 1st, 1917, having taught five years or longer, could be returned immediately without impairing the solvency of the fund. Such repayment must of course defer the date when the fund would be in an entirely satisfactory condition, but the Commission has decided that these repayments are justifiable.

"The Actuary also reports that if no returns of contributions were made it would be possible to increase the pensions. But while the Commission recognizes that present pensions are small, yet it cannot ignore the fact that those now pensioned and those who will be pensioned in the near future, are largely responsible for the deficit that appears in the financial report due to the small total payment hitherto made on their behalf, both by their own contributions and by those of the Government. Teachers who have been contributing for at least five years but who do not expect to continue very long in the service should have returned to them as large a sum as the fund can sustain.

"While it would appear that the older teachers are being pensioned at the expense of the younger ones, it should be understood that it is expected that the contributions of the Government will in time bear this entire burden, rather than the younger teachers, and that the younger teachers on withdrawal after five years will then receive what they have contributed. But a warning must be issued in this connection. Those who drop out of teaching and decide to withdraw any portion of their contributions must realize that they cannot re-enter the profession, resume their contributions and count all their past years of service as if they had not withdrawn anything from the fund. If half the contributions are withdrawn, only half the previous years in which contributions were made could be allowed when re-entrants claim their pension. For that reason the Commission would recommend that as many as possible of those who withdraw from the profession should leave their contributions with the fund and thus receive credit for past service. To teachers adopting this course, the Commission have decided to allow interest at 4% per annum on the portion of the contributions made by such teachers which they were entitled to withdraw from the Fund. It is frequently the case that those who withdraw, re-enter the profession later in life, and unless previous service could be counted, would be entitled to a very inadequate pension indeed."

School Athletics

An *Athletic Handbook for Ontario Schools* compiled by the Ontario Athletic Commission for the use of junior boys and girls, has just been issued by the Ontario Department of Education. The publication will be welcomed by the parents of school children not only for the practical aid but for the spirit of encouragement it gives to open air sports for boys and girls. The average parent is perhaps quicker than the average teacher to recognize the importance of the physical needs of the school child. In this age of specialization the teacher is too apt to devote his best energies to the intellectual and to assume the physical development of the pupil. It is no easy task to preserve a nice balance, but this little

book will help. Brief rules for the various track and field games are given and illustrated by diagrams. Boys and girls who wish to know where to secure a complete set of rules of any game or desiring information concerning any sport are invited to write to the Ontario Athletic Commission, 46 Richmond St. West, Toronto.

Arbour Day Every teacher should read Mr. Whyte's article in the Agricultural Nature Study section of THE SCHOOL this month on how to plant trees. Too many teachers fail to realize the opportunities that Arbour Day presents. The planting of trees and improvement of grounds should prove one of the best possible lessons in community civics. It meets all the requirements of a good social "project". It is a lesson in co-operation. It stimulates civic pride. It looks to the future. Think what the school grounds or the village street might look like now if some one, twenty years ago, had planted rows or groups of elms or maples here and there. Do it now.

An Appreciation

Mr. George Malcolm, who has been for thirty years on the staff of the Stratford Collegiate Institute, and for the last twenty years vice-principal has been forced by ill-health to retire from teaching. While Mr. Malcolm's main interest has been in the practical work of the class-room teacher, his interest in educational affairs has always extended beyond the class-room. He has been president of the English and History section of the O.E.A., president of the Teachers' Association of Perth County and of the Queen's Alumni Association of Western Ontario.

MR. GEORGE MALCOLM

Mr. Malcolm was born and educated in Ontario. Durham county rural schools, the Toronto Normal School, and the Collingwood Collegiate Institute gave him

his early training. A session at Edinburgh University and a course at Queen's University gave him his degree with specialist standing in English and History.

Mr. Malcolm has had varied interests besides education. For many years he has been an elder in Knox Church, and is now Clerk of Session. For a time he was superintendent of the Sunday School, and for nineteen years taught a large Bible Class. For many years he has been prominent in Masonic circles, and is a Past District Deputy Grand Master of South Huron District.

His zeal for scholarship, his energy and good judgment, his long and successful experience, have for many years made Mr. Malcolm an outstanding figure among Ontario teachers. A host of friends, ex-pupils, fellow-teachers and fellow-citizens will wish him a rapid recovery.

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Trees and Tree Planting

"Children, have you heard the budding
Of the trees in valleys low?
Have you watched it creeping, creeping
Up the mountain soft and slow?
Weaving there a plush-like mantle,
Brownish, grayish, reddish, green,
Changing, changing, daily, hourly,
Till it smiles in emerald sheen?"

—*Mother Truth's Melodies.*

IT is now thirty-five years since the Department of Education set aside the first Friday of each May as Arbour Day, a day to be spent in training the children in beautifying the school grounds by planting flowers and shrubs and trees.

A survey of the results of Arbour Day efforts shows a number of school grounds throughout Ontario bordered by splendid trees that were planted by school boys and girls who have since grown to be men and women. In many instances the farm homes of these boys and girls, by their clumps of shrubbery and avenues of trees, re-echo the Arbour Day lessons. But upon the whole, the results of the labours of

teachers and pupils have been very meagre and there is still an overwhelming number of rural school grounds that are as bare and forbidding to-day as they were before Arbour Day was established.

The cause of failure does not lie so much in lack of will to do the work as in lack of knowledge to do it in the right way. Too often has it happened that after the teacher and her troop of willing helpers have, by prodigious effort, uprooted a young tree and transferred it to its foster home in front of the school building, the tree has been found quite dead by midsummer and sufficiently dry by autumn to make a serviceable hockey stick for one of the bigger boys.

Before a tree is transplanted into the school ground the children should be put into such an attitude toward tree life that they will become protectors and nurses of the tree. A bright nature study lesson dealing with the beauties and varieties of colour and forms of foliage and including a comparison of the marvellous branching systems of different kinds of trees in a good means of developing this sympathy. The lesson may also contain such topics as the usefulness of trees for beautifying the roads, fields and farm homes; their use for shade for man and domestic animals and as homes for birds; and for furnishing materials for lumber, posts, fuel, etc. The lesson should be illuminated by pictures of forest trees and also by verses and prose descriptions. Irving says "There is something nobly simple and pure in a taste for the cultivation of trees. It argues a sweet and generous nature to have this strong relish for the beauties of vegetation and this friendship for the hardy and glorious sons of the forest. He who plants a tree looks forward to future ages and plants for posterity. Nothing can be less selfish than this".

To assist the pupils to understand the proper treatment required in the case of a transplanted tree, the following three simple plant experiments should be taken up.

(*a*) Thoroughly clean and dry a small clear glass bottle that has a wide mouth (e.g. a small pickle bottle). Pass into the bottle a few leaves of any house plant, the leaves being still attached to the plant. Tie waxed paper over the mouth of the bottle, gathering it closely around the stems of the leaves. Examine the inner surface of the bottle after it has stood for half a day or longer. How did the moisture get inside the bottle? The pupils will readily reach the conclusion that leaves are the organs of a plant that give out the moisture from the plant.

(*b*) Set the roots of any common plant (a weed will do) in shallow water coloured with red ink. Next morning examine the leaves of the plant. The leaves are stained inwardly with the red water. This shows the roots are the organs that absorb the water from the soil and this water is passed on to the leaves.

(*c*) Plant a few seeds of oats or barley in coarse clean sand. Place in a warm room and keep the sand moist until the young plants are a couple of inches high. Now allow the sand to become dry and carefully pull the young plants up so as to get the roots. Note that the grains of sand cling to the roots like a necklace.

It is found that very fine short objects (seldom more than one-eighth of an inch long) attach the sand to the fine roots. These short fine things are the *root hairs* (Fig. 1), and their duty is to cling very closely to the soil particles and to absorb from the surfaces of these particles the water and food required by the plant.

Are the root hairs likely to be destroyed in transplanting a tree?

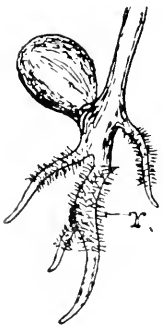


Fig. 1.

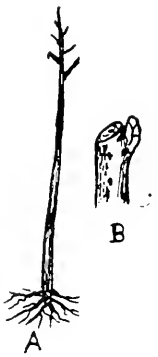


Fig. 2.

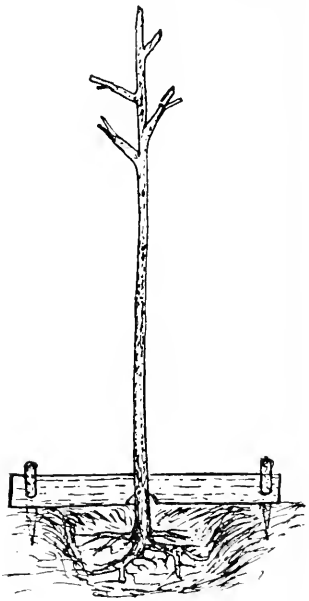


Fig 3.

If many leaves are left on the tree after transplanting will the tree be in danger of drying out? Why will this danger become less as time goes on?

The above experiments teach the necessity of removing the greater number of the leaves and branches from the tree and of giving the roots the best possible opportunities for developing new roots and new root hairs.

Fig. 2 represents a young plum tree pruned for transplanting and Fig. 3 represents a maple tree, about six feet tall, with the branches and roots trimmed for transplanting.

Fig. 2B shows the proper position at which to cut a branch. The bud immediately below the point of cutting will be a means of maintaining life and new growth at the tip. If no bud were there the stump would die down to the next bud below and dead stumps are likely to prove harmful.

When pruning the top it must not be forgotten that this is the time that determines the future length of the trunk and shape of the tree top. As trees are prone to split at a crotch, avoid the formation of crotches by refraining from having two branches start out from nearly opposite points.

All broken and crushed roots should be cut off but if the roots are fresh from the soil it is not necessary to cut them back severely (Fig. 3).

The hole should be dug wide enough to spread the roots out to their full extent and should be sufficiently deep to permit of setting the tree about one inch deeper than it was originally. When digging the hole place the soil in two heaps, one containing the upper loam and the other the subsoil.

If the trees are to be set in rows, a marking board (Fig. 3) is a necessity. The exact position for the tree is found before digging the hole, the board is taken out of the way while the hole is being dug and is replaced upon the pegs while the tree is being set.

It is very important that the soil should be packed firmly around the roots of the tree. As the tree is held in the right position in the hole and at the proper depth the loam soil should be shaken from the shovel loosely and pressed under and around the roots, using the hands. The upper layers of roots should be lifted up so that they will come out in their natural positions and the soil covering the roots below these should be trampled firmly before they are covered. When the soil has thus been packed in turn around the successive layers of roots, throw the upper three or four inches of soil on loosely. This loose layer constitutes a mulch to prevent waste of water into the air.

Watering at the time of transplanting may do more harm than good, but if the weather continues dry for a long period, remove about two inches of the mulch, water the soil thoroughly with a filtering can, allow the water to settle into the soil and then replace the mulch.

Cultivate a space at least four feet in diameter around the tree for the first two summers after transplanting. The cultivation helps to conserve the moisture and it also serves to prevent weeds and grass from competing with the young tree for plant food and water. Two stout stakes set up one on each side of the little tree, will serve to protect if from injury by children and stray animals. Frequently it is the treatment of the tree after transplanting that decides whether it will survive.

Home Projects in Transplanting

1. When transplanting vegetables, flowers or shrubs attend to the following:

(*a*) Make the hole for the root wide enough to permit of the root being spread out and deep enough to permit of the root being set deeper than it was before.

(*b*) Use fine soil to cover the roots and pack it firmly from the bottom upward.

(*c*) Remove the mulch before watering, replace after the water has settled.

Report upon the percentage of plants that survive transplanting under this method.

2. Make a record of the kinds of shade trees that have been set out in your locality. What kinds grew or what proportion of them grew? What kinds failed to grow? Were the failures due to imperfect planting or to the fact that the trees were unsuited to the locality?

Find out how many years were required by certain shade trees in growing to their present size and classify the varieties as (*a*) slow growers, (*b*) rapid growers.

Seed Potatoes

Outline for the study of seed potatoes and preparation for planting.

Materials.—(*a*) A number of potatoes suitable for good seed. That is they should be of good size without being over-large; they should be uniform in shape and colour, symmetrical and free from rot. (*b*) A few potatoes having rot spots. (*c*) One or two potato sets that have been planted in warm soil in a moist place for a couple of weeks.

Observation.—The following topics will furnish matter for an observation lesson:

Each potato (Fig. 4) has a bud end (E) with a cluster of buds and a slim end (S).

The buds are contained in little pits called eyes.

Each eye has a small scale (I) on the side closest to the stem end of the potato.

Two kinds of disease spots are found on the surface, common scab (c) and rhizoctonia (r). The latter is seen as small dark brown spots that look like small spots of brown soil. The eyes are arranged in a spiral, see line (d). Compare with the arrangement of leaves, buds and branches on a tree such as the willow or elm. The similarity goes to prove that the potato tuber is a stem and the scales below the buds are small leaves.

The buds at and near the bud end of the tuber are more developed

than those near the stem end. For this reason if a uniform plot of potatoes is desired it is advisable to use the former buds for sets, the latter being of the dormant type.

The buds of the sets that had been planted have grown into stems with small leaves just beginning to open. Roots have also grown out from the base of the buds. These roots are provided with root hairs that have gripped the soil particles and are able to absorb food for the young potato plant as soon as its leaves are ready to manufacture this food.

Since the young potato plant can collect its own food at such an early age sets of a moderate size will suffice. The results of experiments

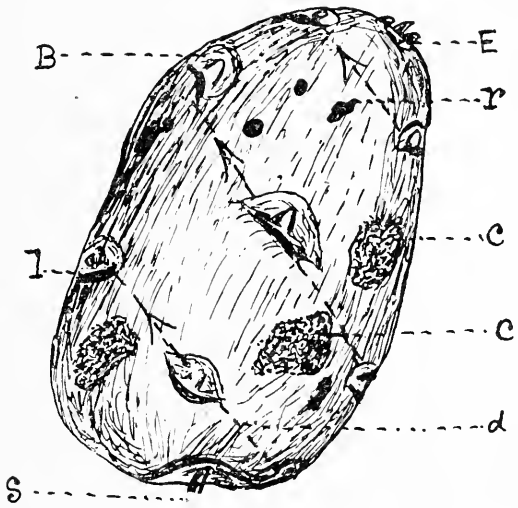


Fig. 4.

upon this point carried out in the Toronto Normal School gardens go to prove the correctness of this conclusion. It was found that a small thin set, such as a piece of potato peeling, could produce a plant only under favourable conditions of weather and soil, while in the case of a set containing a cubic inch or more of potato the greater part of the food was unconsumed by the growing plant. Many such sets were found the next autumn at potato harvest almost as firm as when they had been planted. A set containing two eyes and having a length of about one and one quarter inches by a width of one-half inch is of the right size.

To prevent common scab and rhizoctonia from passing on to the

next crop, soak the potatoes, before cutting, for one hour in a solution composed of 1 lb. of formalin to 30 imperial gals. water.

Reject all potatoes that show rot and when cutting keep a jar of formalin at hand into which to dip the knife blade for a few minutes whenever a diseased potato has been cut into inadvertently. Dust a little lime over the sets after cutting. This protects them from disease and prevents them from drying out. Do not cut the sets until very shortly before planting them.

The best quality of seed potatoes is obtainable in Northern Ontario. The diseases named above are less prevalent in that part of the province, and, in addition, the disease called leaf roll which has become extremely destructive in Southern Ontario is still practically unknown in the clay belt.

Planning a Composition

ADRIAN MACDONALD

WHEN a teacher who is not a specialist in English comes to teaching his pupils how to draw up a plan for composition, he is frequently rather puzzled to know just how to go about it. In preparation for his projected lessons he perhaps attempts to make an outline for an essay himself. He jots down a tentative topic on his page, and then stops to look at it. Should that particular topic be dealt with at the first of his essay, or at the end, or in the middle? Does it deserve a whole paragraph to itself, or should something else be put in with it? Maybe it should not be in the composition at all! It does not take him long to discover that he needs some help in his task; and for this purpose he turns to a text-book.

If luck is with him when he reaches towards his bookshelf, he picks out a good text-book and all his difficulties are solved. But if his luck fails him (and the betting is two to one that it will fail him), he is in a worse plight than ever.

It is to assist the latter teacher, who has studied a text-book only to find himself in a state of "confusion worse confounded", that I am writing this note. His text-book difficulties have probably been two-fold. He has found, on the one hand, very scholarly books prepared by authors thoroughly versed in the art of writing, but unfamiliar with the needs of junior pupils; and on the other hand he has found books prepared by teachers quite familiar with the requirements of class-room work, but as innocent as lambs of any real knowledge of practical writing. There are, of course, a few good books.

If the histories, the arithmetics, the geographies of the Dominion were as full of gross blunders as some of the text-books in composition, the larger daily papers would have to issue an extra supplement containing nothing but letters of protest.

The following outline, for example, stands uncriticized amongst some excellent material in one of our best books:

In describing a bird, the following points should come after the statement of the general impression of its appearance:

Size—length from head to tip of tail.
Colour—back, under parts, head and sides.
Beak—shape, length and thickness.
Legs and feet—length of legs, number of toes.
Movements—in walking, in flying.
Food—how secured, material.
Nest—where and how built.
Young—number, how cared for.
Voice—singing notes or chirping.
Disposition—cheery or sad, cruel or affectionate.

Poor old Wordsworth! What a shame he did not have this highly systematic outline in his possession so that he could have followed it in his bird poems! Instead of that rambling ecstasy about the cuckoo he might then have produced something like this:

TO THE CUCKOO

O Blithe New-comer! About eleven to twelve
Inches in length; grayish brown,
Or dunnish drab
In colour—
I have heard, I hear thee
And rejoice . . . . . .
But pardon me
If I douse my vain exuberance
And get down to business.
Thy beak is slender, slightly curved, and yellow, etc., etc.

Now that is something like real poetry! Notice, for instance, that the lines have even been rendered into *vers libre*.

Exquisitely logical, however, as the above re-edition of the poem no doubt is, we still feel that it is somehow not as good as the original. As Wordsworth wrote the poem, there is a certain vividness and spontaneity which is lacking from our version. Our systematic cataloguing of characteristics is, to say the least, not very picturesque. Yet the outline we followed looked plausible enough at first glance. What is wrong with it?

That is the kind of question which I am attempting to answer here.

There are three principles of structure commonly mentioned in text-books—unity, continuity, emphasis. To understand these principles

in a general way is simple enough. The principle of unity demands that each composition should have a single purpose, and that all parts of the composition should help to carry out that purpose. The principle of continuity demands that the various parts of the composition should be arranged in logical order, and that this order should be made evident to the reader. The principle of emphasis demands that the stress placed upon the several parts of the composition should correspond with the relative importance of those parts.

It is not in the understanding of these principles that difficulties arise. It is in their application in practice. The above outline, for instance, offends grievously against the principle of unity.

By way of showing where lies its fault, I shall tell of a simple experiment I tried in class to make the students aware of the significance and value of the principle of unity. Early in the term, for quite a different purpose, we read the story of Dick Whittington and his Cat. Deliberately I chose a rendering of the story which deals very fully with the later part of Dick's life. After telling of his becoming Lord Mayor of London, this version goes on to recount how he cared for the poor, how he received King Henry V at the Guildhall, how he was knighted, and finally how he displayed his generosity by forgiving the King's war debts. Some weeks after this story had been read in class, I asked the students without warning how the story ended. With one accord they replied that it ended with Dick's marrying Mistress Alice and his becoming Lord Mayor of London. They all remembered, to be sure, his acquisition of a fortune through his cat; but that, they felt, was not the true ending of the story. Two students out of one hundred and forty recalled that he was good to the poor. The other details of his life were forgotten altogether.

Why were the concluding incidents of the story so completely forgotten? Simply because they were not necessary. The purpose of the narrative was to tell how Dick Whittington, a poor boy, rose to fortune. Surely when he was shown to be rich, happily married, and Lord Mayor of London, sufficient evidence of his good luck had been educed to satisfy even the most expectant reader. To include further evidences of his prosperity was to bring in material not necessary to the carrying out of the single purpose of the composition—was to offend, that is to say, against the principle of unity.

With this illustration of the value of unity in our minds, let us go back to the outline suggested for the description of birds. A composition, it has been said, should have a single purpose. What could be the purpose of a mere lists of facts about a bird such as the one in question? It might possibly serve as a scientific record of observation for the ornithologist; but such a record is decidedly not literary composition.

If it were we should have to regard the men who make out the census returns as *litterateurs*.

In suggesting such a rigid outline as a basis for the description of any bird, the text-book completely lost sight of the necessity of unity of purpose. Unity of purpose means in description unity of impression; unity of impression means a discriminating selection of details. In a catalogue such as that under consideration there is no attempt whatever at selection.

Since my purpose is not so much to elucidate the principles of structure (any text-book, good or bad, will do that), as to make an attempt to clear up some confusion in the use of these principles, another case of error might not be amiss—especially as the example I am about to quote is highly typical.

In the same book the following plan is set down as a model:

A TRIP ON A HOLIDAY

1. The time and the place visited.
2. The planning and object of the trip.
3. The members of the party.
4. The journey and any incident on the way.
5. The amusements and the luncheon there.
6. The return and the impressions of the day's outing.

At first glance this plan looks fairly promising. It allows for the introduction of all relevant matter, and it appears to follow a logical sequence. Where does it fail?

To discover the merits or defects of any plan we must project ourselves into the future. We must imagine the plan as developed into an essay, and the essay as having found its goal in the hands of a reader. In any question of composition the last court of appeal is necessarily the reader. How will our essay strike him? That must always be the question we ask ourselves.

A story based on the above plan would, I believe, affect the average reader in only one way—he would be hopelessly bored. In taking up such a story to read, he would wish to enjoy in imagination the pleasures of that trip. Possibly he might hope to take a similar one himself some day. With the anticipation of real pleasure he would read through the first paragraph, only to find that it is purely introductory. Hope of something better might carry him through the second paragraph. Still he would be disappointed. In all probability after the third paragraph he would give up in disgust. This author, he would think to himself, can have nothing interesting to say or he would not take so long in getting at it. To expect any reader to wade through half the composition before he comes to the story itself, is to expect patience more than human.

We have suffered so often ourselves from listening to speakers who have taken twenty minutes to approach their subjects, that we ought to have mercy. There is only one thing worse than a speaker who takes a long time to get into his subject, and that is a speaker who takes a long time to get out of it. Yet if we were to follow the plan under discussion, we should offend in both ways. Imagine the drivel that we should have to write under the heading of "impressions of the day's outing"!

"The planning and object of the trip" and "The impressions of the day's outing" would be better left out altogether. They do not help to make vivid or interesting the details of the trip itself. To introduce them is to offend against a strict observance of the principle of unity.

It would doubtless be necessary to refer to "The time and the place visited" and "The members of the party"; but when these details are made the subject of whole paragraphs, we cannot help introducing irrelevant material. At any rate by treating them so extensively we are placing far too much stress on comparatively unimportant material. We are offending, that is, against the principle of emphasis. Only two paragraphs out of six are given up wholly to the telling of the story.

Let us mention the circumstance of time, place and party, to be sure, but let us do so in a less garrulous fashion. All of these details could easily be included in the first sentence of the paragraph on "the journey" as—

"On the twenty-fourth of May our whole Sunday School class went up the Kawartha Lakes for a very pleasant picnic."

These two,—the principle of unity and the principle of emphasis—are the principles most commonly abused in practice. The principle of continuity is as a rule fairly well observed. The above plan, for instance, shows only a slight error in continuity. It suggests that the place visited should be described in the first paragraph. Would it not be better to leave this description until our narrative has brought the party to its destination?

It might be objected here that I am expecting too much of children, that a simple obvious plan, such as the one quoted, is good enough for beginners. My answer is that such a plan is neither simple nor obvious. Its chief defect is, as a matter of fact, that it is too elaborate.

A glance will convince anyone that the above plan is based on that old stereotyped division of a composition into introduction, body and conclusion. The first three topics make the introduction; the next two, the body; and the last, the conclusion. Such a formal arrangement of the material is, I contend, not necessary for junior work—nor for senior work either, as a matter of fact.

If this threefold division of a theme is judiciously used, I admit it

may be unobjectionable. Every composition should have a beginning, a middle and an end. But as a rule this rigid framework for the plan does nothing but lead the beginner unnecessarily into dangerous gins and pitfalls. Those who use the tripartite formula, for instance, have usually a half-conscious notion that the three parts of the essay should be of about equal length. Hence the long introduction in the plan under examination. There is also another equally deleterious notion prevalent that in writing or speaking we should not broach our subject immediately, but should first deal with something of a more or less general nature; and that we should end as we began with a series of fatuous platitudes. It is understood, that is, that we should approach our subject with the coy indirection of the insurance agent who tackles such a gullible but timid prospect as a school teacher, and that we should leave our subject with the verbose reluctance of a middle-aged gossip departing from an afternoon tea.

The principle of emphasis, as it relates to the whole composition, demands not only a right apportionment of space, but also an effective beginning and end. To make these parts telling the student does not need to strive for an effect. All that is necessary is that he put in his first paragraph—in his first sentence if possible—something of real interest to his readers; and that he stop immediately he has finished what he set out to say.

One of the best examples of a well planned narrative is the story of "William Tell and his Son" in the Ontario Third Reader. The teacher who desires a good model for the planning of a composition should get his pupils to work out for themselves the plan of this story. The selection is short, and will serve exceedingly well for class-room analysis. An examination of the resultant outline from the standpoints of Unity, Continuity and Emphasis, will bring out some interesting points.

The pupils may notice, for instance, the effective beginning and end:

"The sun already shone brightly as William Tell entered the town of Altdorf, and he advanced at once to the public place, where the first object that caught his eye was a handsome cap, embroidered with gold, stuck upon the end of a long pole." . . .

'Incomparable archer, I will keep my promise, but what needed you with that second arrow which I see in your girdle?'

Tell replied: 'It is the custom of the bowmen of Uri to have always one arrow in reserve.'

'Nay, nay,' said Gessler, 'tell me thy real motive; and whatever it may have been, speak frankly, and thy life is spared.'

'The second shaft,' replied Tell, 'was to pierce thy heart, tyrant, if I had chanced to harm my son.'

Here is no wordy preamble about "the preparation and object of the trip"; and no vacuous reference at the end to the fact that "a

very pleasant time was had by all". The first sentence begins the action of the story, and the last sentence concludes it.

In drawing up a plan for a composition all that is required is merely the jotting down in a suitable order of the topics to be dealt with. No great elaboration is advisable. At best such an outline should be only suggestive If a pupil finds as he writes that a better arrangement is possible, or that he has forgotten in his plan something of value, he should not be criticized for making the necessary change. Hidebound writing, even with children, is stiff, unnatural, hopelessly dull. No one, not even the most experienced writer can be expected to sit down and draft, paragraph by paragraph an exact outline of a projected work—at least no one but the proverbial German professor. Some latitude must be left for the inspiration that goes with the actual writing. Criticize the pupil's work if his changes are unjustified, but do not make him feel unduly bound by the suggested outline.

As an example of the simple plan here recommended, I might offer the following rearrangement of the outline for "A Trip on a Holiday":

1. The journey.
2. An incident on the way.
3. The amusements.
4. The luncheon.
5. The return.

Drama in the School

ALEX. MACMILLAN
Camrose, Alta.

IN making the following suggestions with regard to the practical side of school dramatization, I have in view the class-room rather than the auditorium. By making the class playwright, producer, and actor I have found that the drama can be made an integral factor in the teaching of literature, grammar, and composition, besides contributing to fill that great vacuum in the school, aesthetic and moral training.

One would do well to begin with the Reader. In many of the selections dramatization has already been carried to a certain point. In the Alexandra Readers "Moses goes to the Fair", and "Maggie Tulliver among the Gypsies" require only to have the conversation rounded out into a continuous whole, with an explanatory dialogue or monologue by way of introduction, to become ready for presentation as one-scene pieces. It must be remembered, however, that if the proper adjustments

are not made there is danger of the performance falling flat, and consequently losing all value. I once had a class produce the latter of the two selections mentioned above, taking their parts almost literally from the text. The impression produced on such of the audience as did not know the story was that the gypsies were on the whole the most interesting people in the play, and to be commended for bearing up so cheerfully under poverty. When the young man returned Maggie's property it was hailed as a praiseworthy case of honesty triumphant. Maggie's revulsion of feeling, instead of being brought out as the main interest of the plot, came to be looked on more and more as a subordinate matter. The appearance of Maggie's father, now heard of for the first time, seemed irrelevant. On discussing these shortcomings with the class, I soon had all the suggestions needed for their correction. Maggie should appear talking of her father rather than of Tom. The gypsies, on seeing her, should forthwith engage in a conspiracy towards her undoing. They should begin as in the text with friendly advances, and work up quickly towards a violent climax of open robbery, Maggie the meanwhile going from one stage of repentance to another. Her father should appear when all was deemed lost.

It must be borne in mind that the possibilities for action in a school-room play are much more limited than those for dialogue. Action introduces a spectacular element which is very effective, but a great deal of the action that comes up for discussion in literature and history is, if not impossible to represent dramatically, at least so difficult to treat successfully that it should be omitted in favour of more suitable subjects. In Daulac's defence of the Long Sault the most dramatic features of the story would have to be omitted if it were attempted to reproduce the story in the class-room. There is a different, but very decided objection to the subject of William Tell.

The story of the heroine of Verchères lends itself admirably to the school-room stage. An average senior class in the public school will throw this into satisfactory dramatic form in a one class period with very little help from the teacher. This theme will serve to illustrate some of the principles which I have found safe in this kind of work.

If this is to be a play with only one scene the first question to be settled is the location of the action. The interior of the fort will be the obvious selection. The scenery will consist of whatever material is at hand, and will necessarily be crude. A simple way would be to have the room represent the fort, with the door for the gate. The Indians need not appear on the scene. In selecting the characters which are to have speaking parts, one must remember that in a school play it is advisabel to distribute the dialogue as widely as possible to avoid making the task of memorization too burdensome. For this reason a generous

allotment should be made to the minor characters. All the explanatory parts should be left to them, in order to lessen the work which must fall on the leading role.

The next point will be to make any necessary adjustments in the plot. The first stage must make clear the situation of the party. In order to make the attack which comes later the more dramatic an atmosphere of calm should pervade the opening scene. Further, as the central interest is to be an act of heroism it will contribute to the general effect to under-estimate the heroine and exalt the soldiers. Madeleine need not appear until the alarm is given. For the rest, the actual historical incidents are quite dramatic enough to be incorporated in the text with scarcely an omission. In order to secure a fitting and proper *denoument*, however, the events must culminate in a climax. We have a very appropriate one in the Indian assault, and this will have to be represented very vividly. It is at this point that Madeleine should send the party to the blockhouse for safety. The arrival of the relieving party makes a very effective conclusion.

The play must now be apportioned to the class for composition. It divides itself naturally into sections for this purpose. One pupil could deal with the conversation of the soldiers about the Indians; another the conversation of the women about Madeleine. Other topics would be: The alarm; Madeleine musters her forces; Madeleine and the soldier with the lighted match; and so on. Afterwards one or two pupils could review the finished compositions and remove any discordances.

It may be questioned whether one has the right to take liberties with a historical incident for the sake of dramatic effect. The correct view is that by manipulating the minor details one secures a general effect which is intrinsically true, and in no other way can this be secured. This is the art of Shakespeare.

The acting should be followed by criticism. This will have reference to the merits of the play rather than to the performance of individuals. It will be interesting to discuss the strong and the weak points of the production. Defects in composition will have become painfully transparent to the composers.

Comedy should have its share of attention. There is good material for this in the school readers, but one may go farther afield. A good plot can be built up around incidents from everyday life. Cases of mistaken identity furnish an inexhaustible supply of humorous situations. One variety of comedy should be avoided—that in which the humor lies in the ungrammatical utterances of the characters. The average pupil usually looks on this kind of composition as a veritable godsend. All the characters, including the Irish, must be made to speak the King's English.

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Problems of Primary Teachers

THE following problems have been presented to the Primary Department of The School.

I. *Telling vs. Eliciting.*—If a child, while reading, stops and tell the next word should I tell or develop the word? When a child fails to get a word in the course of reading even after careful preparation the teacher often stops to develop the word then and there for that *one* pupil while the other children remain unoccupied. By this method the lesson is delayed and continuity of thought is broken. Such a procedure is very wasteful. The teacher should *tell* the child or have some other child tell him at once and proceed with the lesson. Later when it can be done without wasting the time of the whole class the one pupil may be helped alone. Of course if a number of pupils miss several words in a reading lesson as they meet them the trouble is due to insufficient preparation before the reading is begun. Whether in the stages of preparation or in the reading lesson proper it should be remembered there are times when telling is the best teaching. There are many occasions when attempts at eliciting are a sheer waste of time. To ask children in such a situation to "try" or "to think" without giving them a clue is futile and only productive of discouragement and loss of time.

II. *Preparation by the teacher.*—Another problem bearing an indirect though vital relation to the child's thoroughness of preparation and therefore ease in reading is the teacher's preparation. Dr. Wendell Holmes used to say that no matter how many times he had delivered a lecture in the college he always *prepared* specially for each new delivery. In this practice of Dr. Holmes is found a valuable hint for all teachers. No matter how familiar or how elementary the lesson to be taught the teacher always finds it beneficial to prepare herself to teach it and that quite as much for her own sake as for the sake of her pupils. Two main elements are involved in the teacher's preparation of a reading lesson for the first year children. Chiefly, the two elements of vitalization and organization are to be carefully considered. The teacher must first vitalize and organize the subject matter in her own mind. Let her read the story through, putting herself in the place of the actors and noting the sequence and relation of the events, the words, actions and traits of characters and the meaning of the whole. While doing

this the teacher may be organizing the same material for purposes of teaching, framing questions on the pictures and the text, planning blackboard work, drawing, dramatizing and other means of bringing out and driving home facts, meanings and relations.

Having organized the lesson on its thought side the teacher should now proceed to organize it on the no less important side of mechanism. This involves deciding what words to teach and how to teach them, what points of good reading (pronunciation, enunciation, phrasing, emphasis, expression, etc.) to emphasize and what place is to be given to silent reading, reading aloud, dramatizing drills and seat work. Moreover, it should not be forgotten that preparing a lesson plan and preparing to teach a lesson are not the same thing. Preparing a plan is external, preparing to teach is internal. The result of the one is something on paper, of the other a mass of images and emotions in the mind of the teacher.

III. *Teaching Children to Study.*—Another problem is teaching children to study. It is a popular notion that young children cannot *study*. This is a great error. If children in the first year have their interest sufficiently aroused and if taught how, they can and will study. If they are so instructed that they know what to look for they will study by themselves. The key to the whole situation is the desire to learn. When this is secured, the only other things needful are definite tasks and definite guidance. The study required of children should be true study—the vital activity of the mind on the task or problem. Reading lessons can be made to serve the end of learning to study. As soon as they can read silently they are asked to read silently, close the book and give the thought in their own language. By practice children acquire remarkable quickness in selecting ideas and facility in telling them. A series of thought questions can be written on the board and the children search for the information necessary to answer the question. They may be asked to illustrate the story or idea in the reading lesson by drawing with crayons or making with plasticine any animal that is mentioned in the story. They may select words or phrases that tell time or place. Or such questions as "What word tells the colour of the flower?" "What word tells you the kind of dog Rover is?" may be asked. Teachers have been heard to say to children "Look over the lesson and see if there are any words you do not understand". This practice is objectionable because it places upon young readers a burden which they are not prepared to bear, it wastes valuable time and tends to form bad habits of reading and thinking. Work of this kind may involve more work at first for the teacher but the reward is sufficiently great to make the effort worth while. Then too, the habit of studying, of searching for information is of value in the grades further on in school.

Hints and Helps

QUOTATION. "The value which the child himself feels that he is getting from his reading is probably the truest test of results": Jenkins' *Reading in the Primary Grades.*

QUESTION.—Is the sound of "w" pronounced "wuh"? B. E. H. No; refer to page 97 of Manual Primary Reading. "The sound of w is a shortened tightened oo" is the way it is described. "The sound of "w" may be made by placing the lips in a position for uttering the sound of oo, as in moon, noon or the sound of o in do, to, and immediately on beginning the sound of oo contract the lips slightly, and stop the sound". Calkins.

GAME OR DEVICE.—Write several numbers on the blackboard. A child stands at a given mark on the floor, throws a ball which is called, for instance, 2, at the numbers on the board; 2 is added to the number hit, as $3+2=5$, $4+2=6$, $6+2=8$, etc. Or the number of the ball may be subtracted from the numbers on the board as $3-2=1$, $4-2=2$, etc. This game may be used for multiplying or dividing drills.

ESKIMO PICTURES.—Excellent pictures of Eskimo life may be bought for 75 cents from the National Geographic Society, Washington, D.C. There are 24 in a set.

Language Training in Form II (Grades III and IV)

MISS KATE STURGEON
Orde Street Public School, Toronto

VARIETY OF EXPRESSION IN WRITTEN AND ORAL COMPOSITION

WHEN, through frequent practice, ease in speaking and writing is acquired, one may advance still further along the line of language training and encourage variety of expression in the use of words, phrases and sentences. We recognize the value of this in ordinary conversation and in our general reading. It stimulates and sustains the interest of both teacher and pupils, prevents monotony, arouses mental effort, encourages originality (differences are emphasized) and provides opportunity for exercise of choice and judgment on the part of the pupil.

Variety in the Use of Words

The following device may be used to develop in the pupils a sense of the value of variety in the use of introductory words in sentences. Select a story that has already been told, and reproduced (oral and written reproduction) in a simple way. Tell, e.g., "A lion was lying

asleep in the forest. A mouse ran over his nose. The lion awoke. The lion caught the little mouse". Check off each sentence, using capital letters to indicate the beginning of each new sentence, e.g., A.A.T.T., etc. Then retell the story, using the same method and as much variety in the use of capital letters as possible. "One sunny morning, a lion was lying asleep in the forest. Suddenly a little mouse ran over his nose. This awakened the lion. He stretched out his paw and caught the poor little mouse."—O.S.T.H., etc. Pupils state which telling they liked the better, and why. Compare the list of capital letters and develop the value of variety as an aid to interest. Different pupils may tell the story and lists of capital letters used may be compared. Select suitable introductory words from Readers, etc., e.g., "Now", "Suddenly", "Then", "Still", "Immediately", "Finally", "Meanwhile", "Consequently", "Generally", etc., and use these in drill and game work in language training.

Other lists of words in general use selected from Readers and other sources, may be made.

Descriptive Words.—Happy, sunny, jolly, amused, excited, charming, beautiful, delightful, wonderful, surprised, delighted, astonished, immense, enormous, numerous, cruel, wicked, cross, unkind, nervous, irritable, etc.

Action words.—Walk, wander, stroll, trudge, chase, pursue, follow up, try to overtake, etc.; hastily, quickly, suddenly, immediately.

Use lists of words on the blackboard during Oral Composition lessons. Have pupils suggest variety in the use of words, e.g., saw, noticed, observed; chewed, gnawed.

In Spelling lessons teach words related to each other or to one another, e.g., please, pleasing, pleasant, pleasure; library, librarian, collect, collector, collection; consult a dictionary. When opportunity occurs, draw attention to use of a word in a well-known story, e.g., "notice". "Who can use the word 'notice' in the story of 'The Lion and the Mouse'?" Ans. "When the little mouse reached the lion, he noticed that he was caught in a trap".

Variety in the Use of Phrases

Keep lists of introductory phrases selected from Readers and other sources and use them in Language Training Lessons, e.g., "One day", "Without a moment's notice", "All of a sudden", "Of course", "Not far from", "Away across the level meadow", "One evening", "Early next morning", "After this", "Far away", "In the distance", "At first", "At last", "In the morning", "As soon as it was dark", "About three o'clock", "Just then", "As he spoke", "Though much afraid", etc.

(*b*) Similarly keep lists of general phrases: "with long white locks", "such as", "with whom", "by which", "with a quick strong pull", "in all directions", etc.

(*c*) Give practice changing position of phrases, "He drew out the thorn with a quick, strong pull". "With a quick, strong pull, he drew out the thorn".

Variety in The Use of Sentences

Through observation of sentences in Readers, etc., develop the fact that Statement Sentences are commonly used. Read selections in which other kinds of sentences are used and pupils will recognize the value of variety along this line. As each kind of sentence is taught, impress by use of each in oral and written reproduction of stories. Blackboard work (with reading and transcription of same) will stress correct form.

Give practice in changing from indirect to direct narration—"The little mouse said that he might be able to help the lion some day". "The little mouse said, 'Perhaps I may be able to help you some day'". Correlate composition with other school subjects. "What did Columbus say to his men when they were discouraged?" A "Question and Answer" game during which sides may be chosen and stars awarded for correct answers adds interest to a review lesson, provides scope for originality and stresses this phase of language training.

Inversion also gives variety, e.g., "The mouse heard the lion roaring for help and ran to him. Hearing the lion roaring (or lion's roars), the little mouse ran to help him". The lion said, "You could not help me". "You could not help me", said the lion.

Give practice in combining two, three or more sentences into one by use of phrases and joining words such as, and, but, or, etc.; e.g., The mouse was frightened. He begged for his life. He promised to help the lion if he was in trouble", "The frightened mouse begged for his life and promised that he would help the lion when he was in trouble".

Keep lists of type sentences on blackboard for use in Language Training Lessons, e.g., "If—" (with a comma) sentence—"If the giant could do such great tasks in so short a time, how could he be kept busy?"

"When—" (with a comma) sentence—"When I was on my way to school this morning, I saw a robin".

"Although—" (with a comma) sentence—"Although he lives far away, he is never late for school".

"Just as—" sentence—"Just as I finished my work, the bell rang".

"Who—" sentence—"The boy who is lame is my brother".

Encourage pupils to make lists of words, phrases and sentences which they like for use in oral and written composition. Commend effort along this line as an incentive to other pupils.

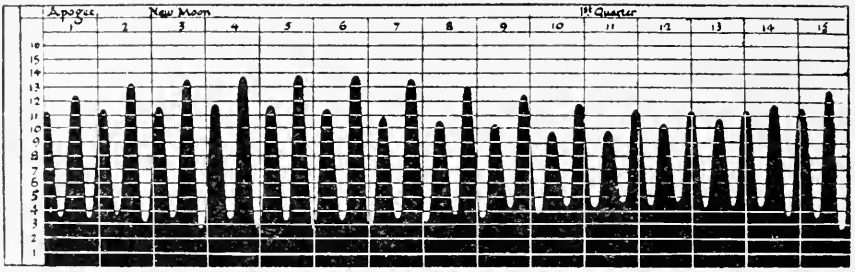


Fig. 1.—Graph of the tides at Father Point.

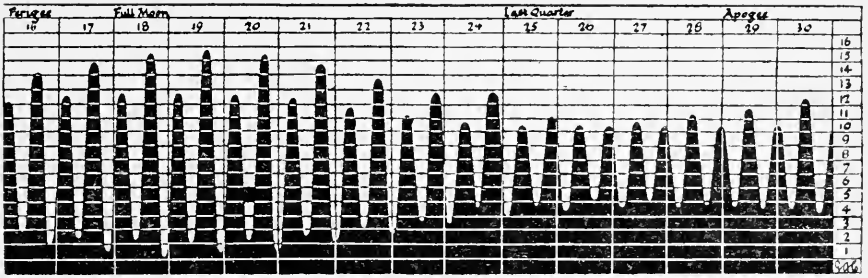
Geography for the Fourth Form

PROFESSOR GEO. A. CORNISH

A Lesson on Tides

Perform the following exercise: Fig. 1 represents the falling and rising of the tides at Father Point for the month of November, 1918. The horizontal lines represent heights above the base line. The vertical lines separate the tides of the different days of the month. What is the height of the first high tide of the month? What is the height of the first low tide of the month. What is the range between the first high and the first low tide? How many low tides and how many high tides are there during the first day of the month? What difference is there between the heights of the two high tides on the first day of the month? Is there an equal difference in height between the two high tides of the day throughout the month? Which are higher, the high tides of the first or of the second day of the month? Which are higher, the high tides of the second or of the third day of the month? Are the low tides of the first day of the month or of the second day of the month the lower? How does the range of the tides change during the first few days of the month? On what day is the least range reached? This is called the *neap tide*. On what day is the greatest range reached? This is called the *spring tide*. When does the second neap tide of the month occur? When does the second spring tide occur? How many days are there between two spring tides? At what phases of the moon do the spring tides occur? The first high tide of the month occurred at 12.24 p.m., and the last high tide of the month at 12.04 p.m. Count the total number of high tides of the month and the total time between the first and the last high tides and then reckon the average time between two successive high tides.

Then teach the pupils the facts about the tides contained in the following information for the teacher basing as much as possible of it on the exercise which they have done.



Quebec for the month of November, 1918.

Information for the teacher

High and low tides. If you stand on the shore of one of the bays of the Atlantic or Pacific coasts of Canada, it will be observed that the level of the water changes. For about six hours the water steadily rises. Each wave on the shore advances a little on its predecessor, and the stranded seaweed as well as the stones and boulders become covered by the rising water. Then for half an hour there is no perceptible change of level. After this the water begins to fall, and continues to do so for about six hours, when after a pause the rise begins again. The rise of the tide is called the flow; the fall is called the ebb. When the water is at the highest level the tide is high, when at the lowest level it is low. The period between two highs or two lows is about twelve hours, twenty-five minutes.

Spring and neap tides. The range of the tides is not the same each day, as can be seen from Fig. 1. For about seven days the high tide of each day is a little higher than that of the preceding day, and the low tide is a little lower. That is to say, the range between high and low tide steadily increases until it reaches a maximum (Fig. 1, 5th Nov.). Then the range steadily decreases for a week, a minimum being reached about 12th November. After that the range increases for another week again reaching a maximum about 19th November. The tide with the greatest range is called the spring tide, the one with the least range the neap tide. Spring tide occurs at the time of new and full moon, neap tide at the time of the first and third quarters.

The tidal wave. The tides are really due to great waves that move across the ocean. These waves out on the ocean are several thousands of miles from crest to crest, but are only a foot or two in height. As the crest approaches a place, the tide is rising, as the hollow approaches, the tide is falling. On the open ocean the tide is not much higher than that of the tidal wave just described. This is the condition on oceanic islands and on exposed coasts. Here the tide is only two or three feet high. But when the tide enters a bay or the wide mouth of a river, these act as funnels, and the tidal wave rises higher and higher as it

moves farther up the narrowing channel. For example, in the Gulf of St. Lawrence the tide is only about three feet high, at Anticosti it is six feet, at Father Point fifteen feet, at Tadousac seventeen feet, and at Quebec eighteen feet.

Estuaries. The mouth of the St. Lawrence River is an estuary, since the tide flows in and out of it. As the tide rises in an estuary, tidal currents flow up the river, and as the tide ebbs, tidal currents flow out. The currents keep the bottom well scoured, and prevent sediment from being deposited. Estuaries are not liable to have sand bars, which make navigation difficult. Further, estuaries, even though of small rivers, are navigable for large ships, since at high tide the water is deep. The rivers of Great Britain, though of small size, have the most notable harbours in the world; this is due to the fact that they are estuaries.

The tides of Nova Scotia. The highest tides in the world occur in the Bay of Fundy. In one of its branches, Cobequid Bay, under favourable conditions the tide has been known to rise as high as fifty-seven feet. Another very interesting tidal phenomenon occurs on a small river, the Petitcodiac, which flows into the head of the Bay of Fundy. The tide advances as a great wave with an almost vertical front sometimes five feet high, and moves forward with a great roar. This wave is called the *tidal bore.*

Cause of the tidal wave. The cause of the tides is much too difficult to explain to a class of children. All that can be said is that it is due to the fact that the moon exerts a pull on all objects on the earth. The nearer objects are to the moon the greater is this pull. Hence those on the side of the earth nearest the moon are pulled most of all, and those on the opposite side least of all. The effect of this difference of pull in small upon the rigid land, but it causes the water to rise in waves one so each side of the earth.

Stories and Rhymes in the Art Class

IDA F. TERRY
Art Supervisor, Medicine Hat City Schools

MANY difficulties confront the teacher of Art throughout the Grades, and anything that may prove helpful in combatting and overcoming these difficulties should not be overlooked. In the junior grades one of the hardest things to overcome is the tendency of the children to use the standard colours alone, the result being glaring crudities, instead of harmonies. This is especially true where complementary harmonies are desired. For example, vivid red and

startling green, placed side by side, are unpleasing to a cultivated taste, but exquisite harmonies may be obtained by greying each with light washes of the other.

All children love fairy stories and jingling rhymes. Therefore, if we find it possible to present our facts under these aspects occasionally, beneficial results may follow. Any teacher can, with a little thought, make up a simple rhyme such as the following when teaching complementary harmonies in the junior grades.

THE GAME OF GIVE AND TAKE

One day the colour fairies
Sat on the rainbow stairs
And gleefully decided
To wander off in pairs.

So Blue paired off with Orange,
And Red stole off with Green,
And Yellow said to Violet:
"Pray, will you be my queen"?

But soon those little couples
Began to scrap and fight,
And they were most unhappy
For nothing went aright.

And soon their grievous discords
Did Fairyland offend,
And they at last decided
For Father Light to send.

The culprits stood before him,
In couples two by two,
But Yellow scowled at Violet,
And Orange frowned at Blue.

And Red and Green were squabbling
For one particular place.
Neither would give the other room,
'Twas really a disgrace.

Old Father Light most patiently
Heard each complaint and said:
"Now listen, Blue and Orange,
And listen, Green and Red

"And Yellow, you and Violet
Just turn and look at me,
And I will tell you how you all
May live in harmony.

"No plan you may decide on
For happiness will make
Unless you all decide to play
The game of 'Give and Take'.

"Each complementary colour
Supplies the other's lack,
But fighting thus together
You might as well be Black.

"Then Blue must give to Orange
And Orange give to Blue
If they'd a pleasing harmony make
With peace between the two.

"And Green must take from glowing Red
And Red must take from Green
To smooth each other's crudeness down
And balance keep between.

"And Violet and Yellow bright
Can rarely stand alone,
For each must give, and each must take,
To gain harmonious tone".

The fairies all decided then
Old Light's advice to take,
To play that game with all their might,
And harmonies to make.

When Red in fiercest anger
Went flaming through the town,
Green followed close behind her,
And cooled her temper down.

When Green looked cold and gloomy
Beneath the winter rain,
Then Red the needful touch applied
And warmed him up again.

And what is true of colours,
As any one may see,
If they will just consider
Is true of you and me.

Even English red and Irish green
Rich harmony could make
If each would with the other play
The game of "Give and Take".

In the senior grades a tendency to crowd details into a small space is noticeable, and a restless disquieting effect is produced. If we could get the pupils to depict only the larger masses and their important lights and shades and to eliminate unimportant details, the results would be more pleasing. Here, too, as in the junior grades, the greying of colours, to obtain harmonies is important. For this class of pupils a rhyme such as the following might prove useful. The fact that moonlight is always more restful to the eye than strong sunlight makes it a good topic to choose to illustrate the mental effect produced by elimination of details.

THE MAGIC OF THE MOON

The silvery moonlight softly falls
Athwart the golden grain,
A lone coyote his message calls
Across the sleeping plain.

The river gentle music makes
Across its shining bars.
And where the cut bank sharply breaks
Soft shadows hide the scars.

Mists that at sunset glimmered white,
Now gently sleeping rest,
Like phantom spirits of the night
Upon the river's breast.

The daylight falls with cruel light
On hideous fault and gash.
And in the sunlight clear and bright
Conflicting colours clash.

The tired eye finds no resting place,
By tortuous forms defied.
Moonbeams reveal the broader space,
And sordid details hide.

A mighty grief may joys efface,
Or turn the hair to snow,
But 'tis the petty cares that trace
The furrows on the brow.

A ton of water on the top
A rock may bear alone.
But water falling drop by drop
Will wear away the stone.

The soul that's hurt by jar or fret
Of trivial daily tasks
And endless details faced and met
A moment's respite asks.

When tortured nerves are like the strings
Of violins out of tune
The silent night around us flings
The magic of the moon.

The calmness of her misty beams
Each harsh detail obscures,
And to the land of wistful dreams
The weary spirit lures.

All colours harsh and crude she blends
In subtle harmonies,
And fiercely jangling discord ends
In dreamy symphonies.

So when distraught by care or haste
Your life seems out of tune
Go out into the night and taste
The Magic of the Moon.

The pupils might illustrate either of these rhymes with colour and masses of light and shade, the junior grades drawing and colouring the fairies, in their crude colours first, and afterwards in harmonies,

and the seniors painting a moonlight scene where only bold masses show eliminating the unimportant details. If teachers would encourage the pupils to make up stories and rhymes illustrating facts with which they wish them to become familiar, and then allow the children to illustrate their own stories, a personal interest (which is always a very powerful factor) would be introduced, and the lessons thus learned would seldom be forgotten. This plan has also the double advantage of correlating the art-work with composition and grammar, and of stimulating the imagination.

For example, how would you show that "Red and Green were squabbling for one particular place"? Here the action line drawing used in the junior grades would be employed, each child using his own imagination with regard to the attitudes taken by the squabbling fairies. No mistakes are likely to be made with the colours here as a lively interest is aroused with reference to the combatants. In the same way each senior pupil might imagine a moonlight scene which would differ entirely from that of any other pupil and yet all of the scenes would partake of the same qualities, *i.e.*, large masses of light and shade, and the elimination of all but important details, and in each the colours, although differing, would all be greyed.

British History for the Fourth Form

Lesson I

How Responsible Government Was Attained in England

A. Review

1. What struggle had been going on for 50 years? (Parliament Against the King).

2. What were the issues? (Control of parliamentary and religious matters).

3. How has the struggle ended? (James II expelled; William and Mary invited).

4. What conditions were laid down? (Declaration and Bill of Rights).

5. What was the general effect of these clauses? (Secured control to parliament or to the people in their parliament. And the Mutiny Act and the new plan of voting supplies, for one year only, guaranteed *annual sessions*.)

6. People had not power or opportunity of ousting an undesirable parliament; Charles II had members who had been elected 18 years before. Could that occur to-day? (No.) What has come in to make such a thing impossible? When? How?

B. Aim "To-day we are going to find out when and how this control of the government was secured to British citizens."

C. Presentation 1. *Central Executive Idea:* (*a*) Need of Committees, *e.g.*, Athletic Executive, Literary Executive in schools, etc., because larger body is unwieldy.

(*b*) Parliament almost 500 members—So an inner committee arose, later the notorious "Cabal" of Charles II—meetings held in small room or cabinet, so the name *cabinet*.

(*c*) Recent rise of *parties*, whigs and tories. Cabinet mixed—consequent dissensions and lack of consistency in policy. (Has this done anything to give people power of holding responsible the country's leaders? *Apparently* the reverse; but let us see!).

II. *Stumbling upon a Political Invention:* (*a*) Suggestion made to stop wrangling; "Choose Ministers only from the party, who are in the majority in the House of Commons; let the others stay out". It did solve his difficulty but it had a greater effect than he ever contemplated.

(*b*) What was this "greater effect"? (Create a situation having certain pupils as "Whigs", and others as "Tories" in the "parliament"; the rest are the "electors". The Whigs are in power (*i.e.*, the members of the cabinet are all Whigs), but they fail to respond to public feeling; their opposition grows; they lose support of a majority in the House; the people's will is "law".)

(*c*) So the power of choosing ministers of state, formerly held by *king* is now handed over to *parliament*, which is responsible to the citizens. This is Responsible Government! (Have members give the meaning as they understand it.)

III. *Parliament becomes fully Responsible*· (*a*) System not quite complete; a possibility that, for personal and selfish reasons, members of the House of Commons would not thus trim their course to reflect public sentiment. The members might retain their seats indefinitely.

(*b*) What means could you suggest as a remedy? (Have *set* times for new elections whether party in power defeated or not). What would be a reasonable *term*? Let the class discuss the advantages and disadvantages of shorter and longer terms.

(*c*) The Triennial Act represents their idea of the proper term. (In what way then did the Triennial Act mark an *era* in the achievement of Responsible Government?)

D. Summary The above points could be briefly summarized under the three headings—I. The Cabinet idea. II. Party Government and its meaning. III. Triennial Act and its significance.

Lesson II

Research Questions

These are assigned at the end of Lesson I. The solutions are worked out as seatwork of homework. The consideration of the pupils' answers constitutes Lesson II.

I. Explain clearly by definition what is meant by: (*a*) Arbitrary, Monarchical or Absolute Government. (*b*) Representative or Parliamentary Government. (*c*) Responsible or Democratic Government.

II. (*a*) Is the Triennial Act still in effect in Britain or has it been superseded? (Danger of Jacobites in election 1715, so Septennial Act—which lasted till 1911. This too long so Parliament Act 1911—five years). (*b*) What is the law in our Provincial and Dominion Parliaments? Dominion five years. Provincial four years.

III. What has been the gain or set-back in the development of the British Parliament—1215, 1265-1295, 1400-1500, 1500-1600, 1600-1700? (Growth or development consists of two factors: (*a*) extent of control exercised, (*b*) composition of membership). This could be represented on the blackboard by a graph rising or falling as the case may be.

Period	*Membership*	*Control*
1100-1200	Barons, bishops	Advisory only.
1215	Barons, bishops	*Consent required* to levy of taxes.
1265-1295	*Knights and citizens added.*	
1322 Ed. II.		Got legislative power—*no grants until demands met.*
1400-1500		
1500-1600		Set back, *strong Tudors ruled independently.* (People prosperous and satisfied; kings had plenty of money.)
1600-1700		Control of Parliament became supreme. Furthermore the people's having a say was made possible.

E.L.D.

THE FINALE

Mrs. Brown: "I hear the vicar thinks your daughter has a real genius for reciting, Mrs. Smith."

Mrs. Smith: "Yes. All she wants, he says to me, is a course of electrocution, just to finish 'er off."—*London Opinion.*

A captain of an Atlantic liner was bothered by a woman passenger who was always inquiring about the possibilities of seeing a whale. A dozen times a day she besought him to have her called if one hove ir sight.

"But, madam," the captain asked her rather impatiently, after long suffering in silence, "why are you so eager to see a whale?"

"Captain," she answered, "my desire in life is to see a whale blubber. It must be very impressive to watch such an enormous creature cry."—*Harper's Magazine.*

The Round Table

1. *Will you please give a list of incorporated cities and towns in Ontario with their populations?*

The incorporated cities in Ontario with their populations are as follows:

Toronto	519,290	Windsor	38,541
Hamilton	113,894	Brantford	29,372
Ottawa	107,137	Kingston	23,096
London	60,685	Kitchener	21,605
Sault Ste. Marie	21,228	Niagara Falls	14,695
Peterboro	20,989	Sarnia	14,637
Fort William	20,521	Galt	13,210
St. Catharines	19,664	Chatham	12,174
Guelph	18,019	Owen Sound	12,301
Port Arthur	16,134	Belleville	12,163
Stratford	16,064	Woodstock	9,549
St. Thomas	15,924	Welland	8,677

There are 138 towns in Ontario, a list a little too long to quote here.

2. *Will you please send me some information as to how we should use "The Lumberman's Rule" in teaching board measure in arithmetic?*

The rule (see illustration in Text-book) is about 3 feet long and is graduated far enough from the zero end to measure across the width of any ordinary board. It is divided lengthwise into parallel trips each strip being graduated to give the measure of an inch board of a particular length. The length of board corresponding to the graduations on each strip is given at the end of the strip. The rule has a projecting brass plate on the end to hook over the edge of the board being measured.n As a board 12 feet long contains as many board feet as it is inches wide, it will be found that the number of feet in a 12 feet board will correspond to the *inch* graduations on the rule. The number of feet in the other boards given in the parallel strips will vary from the inch graduations according as the board measured is longer or shorter than twelve feet. The amount of lumber in boards more than 1 inch thick can be obtained by multiplying the amount in an inch-board by the number measuring the thickness in inches.

3. *I have a school of forty-five pupils, the greater number boys. I am greatly distressed at the fighting spirit amongst them. I will be grateful for any suggestions you can offer to eradicate this spirit.*

A "fighting spirit" was very much in demand in Canada and elsewhere not long ago. It may be largely an evidence of superabundant physical energy. Can you not turn this energy into wholesome and useful channels? Have the boys compete in organized games or track

events. A coming issue of THE SCHOOL will publish records other boys have made in these athletic exercises. If there are enough boys, organize school games. If you cannot yourself take part in them, you can influence some leader or leaders amongst the boys in these physical projects. Could not one or two of the older or bigger boys be made to feel some responsibility in the matter? A boy who is busy organizing or taking part in sports is not going to fight. Did you ever study the Boy Scout movement? The mere presence of a teacher in the school grounds at recess has a wholesome influence. If it were a case of bullying, corporal punishment might be suitable or suspension might be necessary. The best thing is to get at the underlying cause of the trouble and seek to remedy that.

4. *In the following examples of simple multiplication and division find for what figures the letters stand. In no two do the letters stand for the same figures.*

I.

n t i e
h r a

h i s r m
n h s n h
r n t s

c i r t t c m

II. e n r) c i m i w (e n r
a r a

o r
There is no remainder at
the end of this

III.

i c w
n r o

m a o r
c m m o
o o s o

o s m r w r

It was not our intention to publish solutions to these problems, presented as ingenious puzzles in the March number of THE SCHOOL, but we have had so many enquiries about them we have thought it better to do so. It must not be assumed that there are not other methods of solution. To follow the reasoning, the values of the letters should be inserted when they are found.

I.—The letter c, at the extreme left of the product, must stand for 1 as no possible values of n and r could give a sum greater than 19. The other c in the product shows that $r+h$ equals 11 as c is 1. Since the last partial product contains the same number of digits as the multiplicand, and since n is greater than 1 it follows that h must be 2, 3 or 4 and therefore r must be 9, 8 or 7. But $e \times r$ ends in h so that if r is even h must also be even, which shows that $h=3$, $r=8$ is impossible. If $h=4$, $r=7$, then e must be 2. But when $h=4$ n must also be 2, otherwise the last partial product would contain five digits. Thus $h=4$, $r=7$ must also be discarded. Therefore $h=2$, $r=9$, then $e=8$ and the last partial product shows that $n=4$. The other digits follow at once from the addition columns.

II.—Since the multiplication by e gives a product with only 3 digits, it follows that e must be 1, 2 or 3. It cannot be 1 since the digits in the product would then be all alike. If $e=3$, then a the left-hand digit in the product must be 9 and then r (in the divisor) must be 3 and thus two letters would represent the same digit. Therefore e must be 2. Since e is 2 the right-hand a in the product must be an even digit and the other a shows that it must be 4. Since $e \times r$ ends in a, then if $e=2$, $a=4$, r must be 7. It now easily follows that $n=3$ and the divisor and quotient are each 237.

III.—The tens column in the addition shows that when o is doubled the product ends in w. Therefore w is an even digit. Since $w \times o$ ends in r then r is an even digit and since $w \times r$ ends in o then o is an even digit. Therefore the possible cases are those shown in the margin. Cases (3) and (4) may at once be discarded since two of the letters represent the same digit. Since $w \times r$ must end in o case (2) is discarded. Therefore $o=2$, $w=4$, $r=8$. It is seen from the first partial product that m must be 1 since the multiplier is 2. The other digits are then easily found from the addition columns.

	(1)	(2)	(3)	(4)
$o=$	2,	4,	6,	8.
$w=$	4,	8,	2,	6.
$r=$	8,	2,	2,	8.

Current Events

The Independence of Egypt

On February 28th Mr. Lloyd George announced to the House of Commons that the British Protectorate over Egypt would be terminated. This policy was sustained by the House of Commons. Lord Allenby, on whose initiative the new status of Egypt was arranged, will oversee the establishment of the new scheme of government. There will be an Egyptian cabinet responsible to an Egyptian parliament. On March 16th the Sultan, Ahmed Fuad Pasha, was proclaimed King of Egypt. Egypt thus becomes an independent and sovereign state. Under the terms of the agreement the British government reserves certain rights to protect foreign interests and minorities in Egypt, to provide for the safety of the British Empire communications, i.e. the Suez Canal and the Nile Valley, and to defend Egypt against foreign aggression, and to guarantee British interests in the Soudan. The new government of Egypt will enter into negotiations with Great Britain as to how these guarantees may be assured. The new relationship between Great Britain and Egypt reminds one of that between the United States and Cuba.

The Washington Conference

After twelve weeks' negotiation the Washington conference, terminated in February, has agreed on six treaties: first, the Naval Limitation Treaty, by which Great Britain, the United States, Japan, France and Italy agree to limit their naval armaments. (See December issue THE SCHOOL, 1921.) Second, The Four-Power Pacific Treaty between Great Britain, the United States, France and Japan. (See January issue THE SCHOOL.) Third, A Treaty between Great Britain, United States, Japan, France, Italy, China, Belgium, Portugal and the Netherlands, agreeing to respect the integrity of China and the policy of the open-door. Fourth, a Chinese Tariff Treaty by the same nations. Fifth, A treaty between Japan and China restoring Shantung to Chinese control. Sixth, a treaty between Great Britain, United States, Japan, France and Italy, agreeing not to use submarines as commerce de-

stroyers, or without observing the rules of visit and search, and forbidding the use of poison gas altogether.

To these very important and definite achievements there must be added the incalculable effect of such a conference in establishing better understandings, eliminating causes of war, and establishing a precedent for the new principle of open diplomacy among nations.

Turkey in Europe

The revision of the Treaty of Sevres as proposed to Greece and Turkey by the Allies leaves Constantinople as the capital of Turkey, which would regain also part of Thrace, and all of Asia Minor, including Smyrna, which the Treaty of Sevres had given to Greece. The Greeks will retain Adrianople. The Dardanelles will be controlled by an international commission. The Armenians will continue to be under Turkish sovereignty, but will be under the protection of the League of Nations.

The Teaching of Geometry

PROFESSOR W. J. PATTERSON, M.A.
Western University, London

Part III

The Elements of Geometry in the High Schools

IN Part II of this series, we showed that a particular point is characterized by *position* which implies (1) *distance* from some point of *reference*, (2) *direction* with respect to some straight line through that point of reference, *i.e.*, with respect to some *line* of reference. We say a point is *known* if this particular distance and this particular direction are known, but neither the point of reference, nor the line of reference is necessarily fixed. The point of reference may be *moving*, *i.e.*, changing its position with respect to some other point of reference, and its line of reference may be changing its direction with respect to some other line of reference. For example, the position of one point in a railway coach may remain fixed with respect to another point in the same coach while the coach itself is changing its distance from a station relatively fixed and changing its direction of motion relatively to the direction of the rails at the station. But the station and the direction of the rails are only relatively fixed, and so on *ad infinitum*.

Thus, in our attempt to fix a point, we are brought face to face with many geometrical ideas, among them being distance, direction,

motion by translation, *i.e.*, change of distance, and motion by rotation, *i.e.*, change of direction. A point may move without changing the direction of its motion relative to a given line of reference or, it may move so as to be at a constant distance from another point by changing the direction of its motion relative to that line or it may undergo both changes at the same time. Here, again, we are brought face to face with new fundamental ideas of geometry: the line, the straight line, the angle, and the curved line, or curve. All these ideas, or concepts, are seen to be related to a point considered in motion, and geometry is seen to originate in our attempt to understand nature as a system of relations relatively fixed in space and time. Out of these relations grows the necessity for explaining our ideas and giving them names in order that geometry may be a universal science, that is, that our language on the subject, both spoken and written may mean the same to all who study geometry. Definitions, then, serve to fix the meaning of certain words we use to name these fundamental ideas of geometry. Definitions should grow up and be stated as the result of a concrete investigation carried on in class under the stimulus and guidance of the instructor. They are here presented, not as so many words to be memorized, but as so many ideas to be acquired as a logical necessity following our investigation, and as a statement of the meaning which, by common consent, we attach to the words we employ to name those ideas. *We do not define ideas. Ideas are always defining themselves* as we *employ* them. They are *living, dynamic* things, always active, and creative, when in *use*. With this warning we submit the following:

Definitions

1. The point is (or has) position only.

2. A point is a particular point when its position is known and is different from the position of all other points we are considering at the same time.

3. If two points have the same position they are said to coincide, and to be identical, *i.e.*, the two points are really only one.

4. A point moves when it changes its position and it changes its position when it moves; therefore motion is change of position.

5. Distance is difference of position, and is produced by motion (translation).

6. If we imagine all the successive positions of a moving point to be connected, so that there is no position in the path of the point from start to finish of its motion that the point has not occupied, we say that path is a line. Hence we define a line briefly as the path of a moving point.

7. Since a point has neither length, breadth nor thickness, a line can have no breadth nor thickness, but it has length, position and direction. This is evident, if we remember that a point always has position and always moves in some direction. Hence we say a line has length, position and direction.

8. If the point that *generates* the line moves always in the same direction between every two successive positions from beginning to end of its motion, *i.e.*, from initial to final point of the path, the line is said to be straight between these points. Hence a line is straight when every part of it, however short, lies in the same direction as every other part.

9. A line is crooked when it is made up of straight parts that change direction at one or more points.

10. A line is curved when it changes its direction between every two consecutive points on it.

11. Angle is difference in direction, and difference in direction is angle,

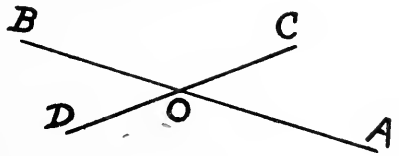
12. If two lines have a point in common, they are said to intersect at that point, and have as many points of intersection as they have points in common.

13. Two lines coincide when no point lies on either that does not lie also on the other.

Some Elementary Propositions

Proposition I.

Two straight lines that intersect in one point cannot intersect in another without coinciding entirely.



Let A B and C D be straight lines. Let them intersect at O. Let O C be different in direction from O A, and shorter in length. Then C does not lie in direction O A from O. Now let C move so that it takes the same direction from O that A has. Then O C lies in the same direction as O A and C must lie somewhere on the line O A, *i.e.*, O C and O A have now two points in common, viz., O and C. Now O C does not change its direction between any two points however near to one another on O C; nor does O A change its direction between O and C (on O A). Therefore every part of O C, however short, starting from O coincides with a corresponding part of O A. But C is *any* point nearer O than A is, and A is *any* distance from O.

Therefore O C and O A coincide throughout their whole length if C lies on O A.

Corollaries to Proposition I

Cor. 1.—Two straight lines which have two points in common cannot enclose a space between them, since there is no point on one that is not also on the other.

Cor. 2.—Two straight lines which intersect in only one point cannot enclose a space between them.

(1) Let the lines have the same direction from O, their point of intersection. Then, for *every* point other than O on the first line there is a coincident point on the other line at the same distance from O and in the same direction from O. Therefore, Cor. 1 applies to this case.

(2) Let the lines O C, O A lie in different directions from O. Then no point on O C, other than O, can coincide with a point on O A, for, if O C without changing its direction met O A, at a point P, (say) then O P along O C would be the same direction as O P along O A, which is absurd.

Note I.—A portion of space in a plane is said to be enclosed by a boundary when a point in the enclosed part of the plane cannot move in that part of the plane and become a point of the other part of the plane without crossing the boundary.

Note II.—A corollary to a proposition is another proposition the truth of which follows readily as an immediate consequence of the truth of the former.

Cor. 3.—Two straight lines cannot have more than one point in common; therefore, two straight lines that lie in the same plane determine one, and only one point.

Cor. 4.—Two distinct points determine one, and only one straight line.

14. If more than two straight lines pass through the same point they are said to be concurrent.

15. If more than two points lie on the same straight line they are said to be collinear.

16. A plane, or plane surface, is such, that the straight line joining any and every pair of points in the surface lies wholly in the surface.

The joiner uses a plane to prepare two surfaces to be glued together. He knows that a surface is plane when a straight edge laid on it touches it at all points of the edge, for every position of the edge on the surface.

In my next paper I shall discuss and classify angles, triangles, and quadrilaterals, and, incidentally, derive some properties of these figures.

(*To be continued*).

The Psychology of the Equation

(Synopsis of a paper by Edward L. Thorndike read before Sections I. and Q. of the American Association for the Advancement of Science.)

According to Professor Thorndike, teachers of Algebra have gone astray through not recognizing the absolutely different psychological principles involved in dealing with the two forms of the equation. In earlier text-books only the equation of equalities was dealt with. The problem consisted in solving the equation, that is, getting a numerical value for the *x's* or *x's* and *y's* involved. The equation was used to organize data in such a way as to indicate the operations required to obtain a certain numerical result. Thus $60-x=x-45$ is a good way to organize data to answer the question "What number is as much less than 60 as it is greater than 45?" Children taught the older algebra never realized that any other form of equation could exist. Now, however, they are taught the co-ordinate system and after having solved innumerable equations of equalities are suddenly confronted with such perplexing things as $y=x+4$, $y=x$, $y=x-4$ and the like. Hitherto x has always been unknown, but only one number when you finally got it known; whereas now you know what it is, but it is 1 or 2 or 3 or 4 or any other number. All their experiences with equations almost forbid them to do anything with such curious things except perhaps to regard the y as a misprint for either 4 or 7. This second form of equation—the "equation of variables" or the "equation of relation lines"—needs a radically different treatment. The two aspects of the equation should be kept apart from the start, and to a large extent throughout; they should, other things being equal, be given different names, taught at different times and in different ways and with different applications.

The equation to be solved should only appear in arithmetic and should be completed before the equation of variables is begun. The latter may be prepared for in arithmetic by the use of such forms as $I=PRT$ for the number of dollars interest = (number of dollars in principal) multiplied by (the rate in hundredths) multiplied by (the time in years); and $H^2=S_1^2+S_2^2$ for the hypotenuse rule and the like.

In the algebra of the future Professor Thorndike thinks that the indiscriminate practice with what are now called literal equations will be replaced by two lines of work. First there will be given, in connection with real formulae, practice in expressing any one of the variables in terms of the others, that is, in solving for that variable. Second, there will be given in connection with typical forms of relation lines, practice in understanding the meaning of the constants concerned as well as the two variables.

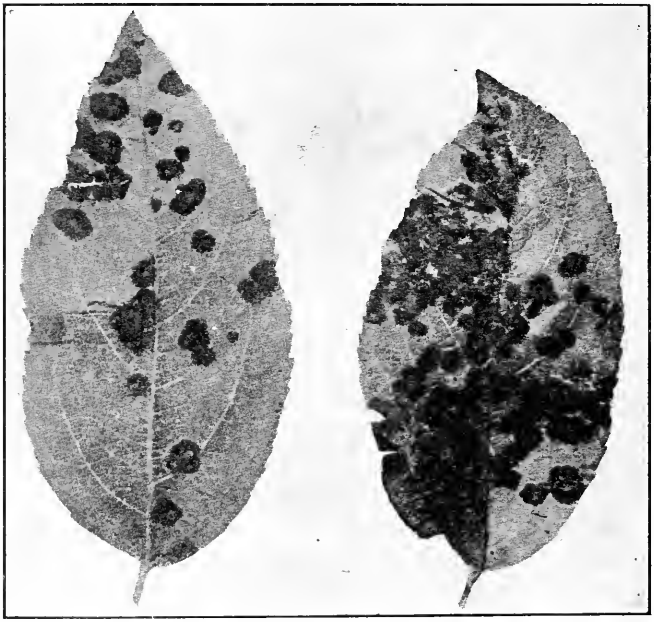
The Parasitic Fungi

R. C. ELDER, B.S.A.

(*Continued from April issue*).

APPLE SCAB (*Venturia pomi*)

This is the most common and most serious disease of apples in Ontario. It occurs wherever apples are grown, and the scab spots on the fruit and leaves are familiar to every grower. In wet seasons the financial loss is many thousands of dollars.

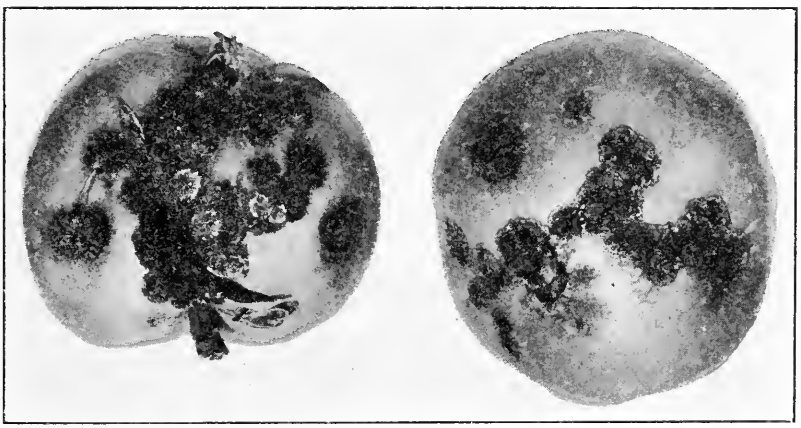


APPLE SCAB ON LEAVES
From Bulletin 257, Ontario Department of Agriculture

Symptoms: Apple scab affects the blossoms, fruit, leaves and sometimes the twigs. It is most conspicuous on and does most damage to the fruit and leaves. Scab may appear on the fruit during any stage of its development, provided that climatic conditions are favourable. It may attack the stems of the young fruit causing them to drop and in this way very much reduce the crop. Young apples are stunted and misformed; mature apples rendered unsightly and unsalable by conspicuous black and brown scab spots, often bordered by a greyish rim.

In severe attacks there is sometimes a cracking of the fruit. On the leaves the scab first appears as small somewhat circular, olive brown spots, on one or both surfaces. Under weather conditions favourable to the fungus these increase in size, run into each other and become brown or black, so that a considerable portion of the leaf is destroyed. Snow, McIntosh, Gravenstein and Early Harvest are particularly subject to scab.

Life history: The fungus which causes scab passes the winter chiefly on the fallen leaves beneath the trees. Spring rains cause the spores to germinate and they are carried to the unfolding leaves and blossoms by the wind. Moisture is essential for infection to take place. About ten days or two weeks after infection takes place the first scab spots of the season appear. Wet weather promotes the spread of the fungus.



Apple Scab on Fruit
From Bulletin 257, Ontario Department of Agriculture.

May and June are nearly always the months when there is most danger of scab becoming serious.

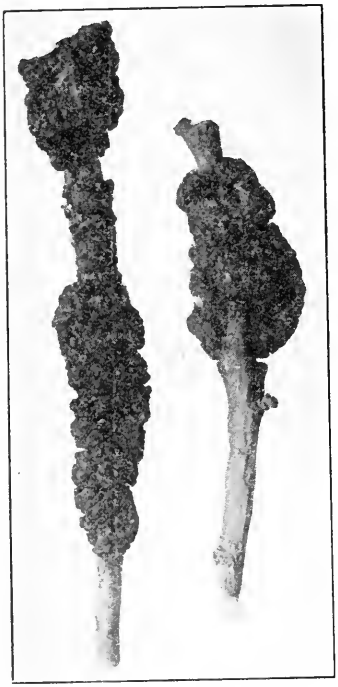
Control: The control of this disease is a matter of prevention rather than cure. The leaves are covered with a substance which will kill the spores before they enter. This is accomplished by thorough spraying as follows.

1. Just as the leaf buds burst, spray with lime sulphur having a specific gravity of 1.035. This is one gallon of commercial lime sulphur to seven gallons of water. This will help to kill the San José and Oyster Scale as well. If there is no scale one gallon of commercial lime sulphur to 14 gallons of water is sufficient.

2. Just before the blossoms open, spray with Bordeaux mixture made by dissolving four pounds of lime and four pounds of copper sulphate

in forty gallons of water. Note—the lime and copper sulphate must be dissolved separately, each diluted to one half the amount, *i.e.*, twenty gallons, and the diluted copper solution poured into the diluted lime solution. This will give the widest range of copper calcium salts which is essential to a long duration of the effectiveness of the spray. Concentrated solutions must not be mixed in preparing Bordeaux.

3. In average seasons the third application should be given immediately after the blossoms have fallen. Use Bordeaux as in No. 2. Spraying should continue every two weeks as long as the weather is cool and damp. Poison is always added to these sprays to control insects.



Black Knot on Plum Twigs
(Original)
Courtesy of Ontario Department of Agriculture.

Dusting the trees with Bordeaux dust is becoming more popular as it is more rapid and easier to handle than the spray. Recent experiments prove that it is equally as effective.

Black knot (*Plowrightia morbosa*)

This is an extremely destructive and unsightly disease and where no effort is made to control it, cherry and plum trees are soon destroyed. The knots usually make their first appearance in the spring as swellings which gradually increase in size. The surface becomes cracked and covered with a light green coating of fungus threads and spores. The swellings are usually spindle shaped and confined to one side of the twig. Later in the season as the knots mature they lose their green colour and become dry, hard, black and cracked. The surface is studded with minute black pimples which are fruiting bodies of the fungus.

Life history: From late spring until mid-summer numerous spores are produced on the young developing knots, so that each is a source of infection to healthy limbs on the same tree or on other trees in the neighbourhood. During the fall and winter another form of spores (Ascospores) develop in black pimples (perithecia) on the surface of the mature knots. These spores are discharged from late winter until early spring according to the locality and severity of the season. Many of the knots are perennial producing fresh crops of spores each year.

Control: 1. Cut out and burn the knots. This should be done twice

a year. 2. Spray the early dormant wood with concentrated lime sulphur, strength—sp. gr. 1.030 or 1.035 appears to be effective in preventing the disease.

Supplementary Reading for the Middle School

PROFESSOR G. M. JONES
Ontario College of Education

(*Continued from April issue*).

NATURAL SCIENCE OR NATURE AND SCIENCE

Author	*Book*	*Times listed*
Allen, Grant	Flashlights on Nature	3
Ball	Starland	2
Brassey	Round the World on the Yacht Sunbeam	2
Buckley	Fairyland of Science	4
Buller	Denizens of the Deep	2
Burroughs	Winter Sunshine	4
	Locusts and Wild Honey	3
	Wake Robin	3
	Pepacton	3
	Fresh Fields	4
	Birds and Poets	3
	Far and Near	2
Fabre	The Life of the Fly	2
	The Life of the Grasshopper	2
	The Life of the Caterpillar	2
Fournier	The Wonders of Physical Science	3
Hodge	Nature Study and Life	2
Ingersoll	Wild Life of Orchard and Field	2
Long	School of the Woods	2
Maeterlinck	Life of the Bee	2
Miller	The Brook Book	2
Roberts	Kindred of the Wild	2
	House in the Water	2
	Hunters of the Silences	2
	Red Fox	2
	Hoof and Claw	2
Seton	Wild Animals I have Known	2
Van Dyke	Nature for its own Sake	3
	Little Rivers	2
	The Opal Sea	2
Walton	The Complete Angler	2

TRAVEL AND EXPLORATION

Bishop	Winged Warfare	2
Brassey	Round the World on the Yacht Sunbeam	2
Bullen, Frank	The Cruise of the Cachalot	3
Buller	Through Lapland on Skis and Reindeer	2
Cameron	The New North	3
Dana	Two Years Before the Mast	2
Davis	About Paris	2
Drummond	Tropical Africa	2
Duncan, Norman	Dr. Luke of the Labrador	4
Hubbard	A Woman's Way in Labrador	4
Johnson, Sir John	The Nile Quest	2
Laut	The Story of the Trapper	2
Lucas	A Wanderer in London	2
McEvoy	From the Great Lakes to the North West	2
Roberts	Secret Trails	2
Seton, Thompson	Two Little Savages	2
Shackleton	In the Heart of the Antarctic	2

Author	*Book*	*Times listed*
Singleton	Japan	2
Stevenson	Travels with a Donkey	6
	Across the Plains	2
	An Inland Voyage	4
Twain	Innocents Abroad	3
Van Dyke	Out of Doors in the Holy Land	2
Wallace	Lure of the Labrador Wild	4
Yeigh	Through the Heart of Canada	3

HISTORY AND BIOGRAPHY

Abbott	Life of Alexander the Great	2
Adams	Twenty Years of Hull House	2
Aitkin, Max	Canada in Flanders	5
Aldrich	A Hill Top on the Marne	3
Arnold	Hannibal	4
Bacon	Drake	2
Belloc Hilaire	Revolution	2
Bolton	Girls Who Become Famous	2
	Famous Men of Science	4
Bourne	Sir Philip Sidney	2
Bourinot	How Canada is Governed	2
Bradley	Wolfe	2
Bryce	Lord Selkirk's Colonists	2
Buchan	Nelson's History of the War	2
Bulfinch	Age of Fable	3
Butler	Gordon	3
Charnwood	Abraham Lincoln	3
Chesterton	Browning	3
Church	Story of the Odyssey	2
Colvin, Ian	Cecil Rhodes	2
Conant	Life in Canada	2
Creasy	Fifteen Decisive Battles	4
Davis	With the Allies	2
Dilnot	David Lloyd George	3
Doughty	Acadian Exiles	2
Edgar	Romance of Canadian History	2
Egerton	Short History of British Colonial Policy	2
Emerton	English Men of Action (series)	3
	English Men of Letters (series)	2
Fitchett, W. H.	Fights for the Flag	3
	Deeds that Won the Empire	6
	Nelson and His Captains	3
	Wellington's Men	2
Forbes, Mitchell	Chinese Gordon	4
	Havelock	3
Forster	Charles Dickens	3
Fowler	Julius Caesar	2
Froude, J. A.	Caesar	4
	English Seamen of the Sixteenth Century	2
Gardiner	War Lords	5
	Prophets, Priests and Kings	4
Gaskell, Mrs.	Charlotte Bronte	4
Gerard	My Four Years in Germany	2
Grant	The Tribune of Nova Scotia	2
Greene	Pitt, the Elder	2
Guerber	Myths of Greece and Rome	2
Haaren and Poland	Famous Men of Rome	2
Harrison	Oliver Cromwell	4
Hay, Ian	The First Hundred Thousand	2
	Historical Tales (Roman, French or Greek)	3
Hooper	Wellington	3
Huard	My Home in the Field of Honour	4
	My Home in the Field of Mercy	3
Hughes	Livingstone	3
Irving	Goldsmith (Life of)	2
Jones	Thomas Alva Edison	3
	Gladstone	2
Keller, Helen	Story of My Life	2

Author	*Book*	*Times listed*
Lang	The Maid of France	2
Laut, Agnes	Pathfinders of the West	3
	Pioneers of the Pacific Coast	2
	Canada the Empire of the North	2
	The Conquest of the Great West	3
Lee	Shakespeare	5
	Queen Victoria	2
Lockhart	Napoleon Bonaparte	2
	Life of Scott	3
Law	Italy in the War	2
Lyall	Tennyson	7
Macaulay	Warren Hastings	7
	Clive	2
	Pitt	2
Machar	Stories of New France	2
McBeth	Romance of Western Canada	2
———	Makers of Canada Series	3
Marquis, T. G.	Brock	2
Masefield	Gallipoli	2
Morley	Burke	2
	Gladstone	2
Myers, Frederick	Wordsworth	4
Nicholson	Lincoln	2
Nursey	Isaac Brock	2
Oman	Seven Roman Statesmen	2
Palmer	My First Year of the Great War	3
	My Second Year of the Great War	2
Parkman	Jesuits in North America	3
	Montcalm and Wolfe	6
	Half Century of Conflict	2
	Pioneers of France in the New World	2
Parkman	The Old Regime in Canada	2
	La Salle	2
	Frontenac and New France	2
	The Oregon Trail	3
	Conspiracy of Pontiac	2
Paull	Arnold	2
Plutarch	Lives	2
Pope	The Day of Sir John A. Macdonald	2
Raleigh	Shakespeare	4
Rose	Napoleon	2
Roseberry	Pitt	7
Russell	Gladstone	2
Seeley	The Expansion of England	3
Skelton	The Day of Sir Wilfrid Laurier	2
	The Railway Builders	2
Southey	Life of Nelson	6
Spears, J. H.	Master Mariners	2
Stevens, G. W.	With Kitchener to Khartoum	4
Stoddart, John L.	In the Days of Queen Elizabeth	5
	Story of South Africa	2
Thackeray	The Four Georges	2
Thursfield	Robert Peel	2
Tooley	Florence Nightingale	4
Tucker	Life of Ancient Athens	2
Van Dyke	Little Rivers	2
Wallace, Stewart	The Family Compact	2
Washington	Up from Slavery	2
Wetherell	Fields of Fame (any six)	2
Willison	Sir Wilfrid Laurier	2
Wilson	Clive	2
Wolseley	Decline and Fall of Napoleon	2
Young	Britannia History Readers	2

FINE CHANCE

Tommy and Billy had been fighting on their way home from school.

The teacher received this note next day:

"Dear Sir,—As one of your scholars hit my boy in the eye with a stone, he can't see out of it. So will you please see into it?"

A Bibliography for Teachers and Students of French

PROFESSOR W. C. FERGUSON
Ontario College of Education, Toronto

(*Continued from April issue*)

(NOTE.—Prices in most cases are pre-war prices)

Guerber.—*Contes et Légendes*, Part 1, American Book Co. The Macmillan Co., Toronto. 60 cents. A series of charming stories, told in simple language. The best for beginners, in our estimation.

Smith and Greenleaf.—*A French Reader*. Henry Holt & Co., N.Y. Contains phonetic transcription on opposite page to text. One extract is "Le Domestique de M. Joli-Coeur" now in the New High School French Reader.

Ceppi.—*Easiest French Reader*. G. Bell & Sons, London. 45 cents.

Short French Readers, 48 pages bound in cloth. J. M. Dent & Sons, London and Toronto. 10 cents each. A good little series. Perrault: *Contes du Temps Passé*, Vol. 1. Laboulaye: *Yvon et Finnette*. Bascan: *Légendes Normandes*. Laboulaye: *Poucinet*. Erckmann-Chatrian: *Histoire d'un Conscrit*. Erckmann-Chatrian: *Le Trésor du vieux Seigneur*. Hugo: *Le Bienvenu*. (From *Les Misérables*). Balzac: *Un Episode sous le Terreur*.

Shorter French Texts, 64 pages bound in cloth. Geo. G. Harrap & Co. Kingsway, London. 6d. each. Auzas: *La Journée d'un petit Lycéen*. Macé: *Contes du Petit-Chateau*. Sébillot: *Choix de Contes Populaires de la Haute Bretagne*. Weisgerber: *Cinquante Petites Lettres en Français*. Feval: *Le Docteur Bousseau*. Moreau: *Contes à ma Soeur*.

Little French Classics, bound in cloth. Blackie & Sons, London. 4d. each. Töpfer: *Le Lac de Gers*. Dumas: *Jacopo ou le Brigand*. Daudet: *Le Petit Chose à Paris*. Erckmann-Chatrian: *Contes Fantastiques*. Mérimée: *Le Coup de Pistolet*. Dumas: *Le Vogage de Chicot*.

Beginners' French Texts, a series of little books at 3d. each; also Elementary Texts at 9d. each. Rivington's, Limited, Covent Garden, London. Each of these series contains a great number of suitable books for beginners, those mentioned being merely intended as suggestions.

THE WAR

Wolff.—*Les Français en Guerre*. Edwin Arnold, London. 60 cents. Upper School classes.

Ceppi.—*Récits Héroïques*, by Charles Guyon. G. Bell & Sons, London. 45 cents. Thrilling stories of the war.

Ceppi.—*Nouveaux Récits Héroïques*, by Charles Guyon. G. Bell & Sons, London. 45 cents. Contains 26 stories, 10 being about Canadian heroes.

Wolff.—*Sur le Front*. Edward Arnold, London. 60 cents. A splendid collection of stories. Somewhat difficult for beginners.

Life, Manners and Customs

Roberts.—*Features of French Life*, Parts I and II. J. M. Dent & Sons, London and Toronto. 25 cents each. Two easy French readers containing much useful and interesting information.

Batchelor.—*Trois Semaines en France*. Oxford University Press. London and Toronto. 50 cents. Normandy and Brittany.

Duhamel.—*Tony et sa Soeur en France*. J. M. Dent & Sons, London and Toronto. 75 cents. A very well written book; a veritable storehouse of information.

Kron.—*French Daily Life*. J. M. Dent & Sons, London and Toronto. 75 cents. A complete guide for the student and traveller, but somewhat advanced.

Kirkman.—*Soirées Chez les Pascals*. 25 cents.

Kirkman.—*Nouvelles Soirées Chez les Pascals*. A. & C. Black, London. 75 cents.

Dictionaries

Cassells.—*New French Dictionary* (latest edition), with pronunciation indicated by the phonetic alphabet. Costs about $2.50.

Gasc.—*Library Dictionary*. French-English and English-French, 975 pages, 8vo., half buckram, 12s. 8d. G. Bell & Sons, Kingsway, London. Costs in Canada about $3.50. This is the best for the general purposes of teacher and pupil.

Augé.—*Petit Larousse Illustré* Nouveau Dictionnaire Encyclopédique. Librairie Larousse, Paris. Bound in red leather. An invaluable work to both teacher and student. About $3.50. A dictionary and encyclopaedia in French.

J. M. Dent & Sons.—*Petit Larousse*. Reprint of the dictionary part of the above. 75 cents.

Bellows.—*French-English and English-French Dictionary*. (New edition, 1920). Henry Holt & Co., New York. An excellent up-to-date book.

Languages Publishing Co.—*International French-English and English-French Pronouncing Dictionary*. New York, $3.25. The pronunciation of both French and English is given in phonetic type.

Michaelis et Passy.—*Dictionnaire Phonétique de la Langue Française*. Ch. Meyer, Berlin. 5 fr.

Littré et Beaujean.—*Dictionnaire de la Langue Française*, 8vo., 1420 pages. Published in Paris. Costs in Canada about $4.50.

Hatzfold & Darmesteter.—*Dictionnaire Général de la Langue Française*. Paris and Leipzig, 2 vols., 8vo., 2,400 pages, about $10.

From the Board's Point of View

The Entrance Examination

Interesting comments on the Entrance Examination results as a test of a school's success are found in the Annual Report of Inspector Putman of Ottawa for 1921. After pointing out that in 1921 in Ottawa not only did more pupils pass this test than ever before but the number admitted was a higher percentage of the total school registrations than in any preceding year, the report goes on to say:

"Upon no topic connected with elementary education in Ontario have there been more absurd statements and claims made during the past forty years than about the Entrance Examination. Many very ordinary teachers have made enviable reputations for themselves because they have "crammed" and "passed" larger classes than their predecessors, and many really good teachers in rural districts and small villages have failed to win a just recognition of their services because they have very properly refused to sacrifice the general interests of their pupils for two or three who were ambitious to secure Entrance standing. One teacher has been praised because she passed 100% of a class of five all of whom were fifteen years of age and above the average in intelligence, and another teacher has lost her position because she passed only two out of five, of whom all were below the average of intelligence. Sometimes a teacher has been talked about and complimented by a whole neighbourhood because she had one pupil sitting at the examination who took the highest marks of any among a small group of candidates. Perhaps, if this teacher had been really effective, not one but four candidates would have been prepared for the same examination. In cities we even hear the absurd statements made that certain teachers are better than others because their pupils win Entrance scholarships or that certain schools are better than others because the pupils of these schools win a large number of scholarships.

"None of these comparisons, however proper and just some of them may be, have any definite value until we set up a constant standard of measurement. That standard in every case ought to be the total school registration. If two cities, A and B have somewhat similar social and industrial conditions and about the same school population and, if during a ten-year period 2,000 pupils passed the Entrance tests

from A and only 1,200 from B and, assuming that all pupils in both cities who are eligible sit for these tests, it seems reasonable to conclude that A has a more efficient system of education than B."

The report urges and pleads the economy of standardization of school buildings. In reply to the objection that this leads to monotony in the type of schools, the inspector replies: "The obvious answer is that we had better have some degree of likeness and even monotony in school buildings and equipment than to have a monotonous mediocrity in our teaching staff. Children may be housed in palaces and yet may be intellectually starved and spiritually dwarfed for lack of that quickening which can come only from the right type of leadership. If we can afford to have school buildings that cost $50 for a seat for one pupil for one year and also have $50 to pay a teacher for this one child for one year, by all means let us have both. But if we can afford only $75 for these two necessary services, let us pay $25 for the former and rigidly maintain the standard of the latter. Let us put first things first and remember that in any scheme of education bricks and cut stone are subordinate to the moral and spiritual growth of our children."

The Rural School Problem in New York State

At a recent meeting of the New York Chamber of Commerce, Regent Chester L. Lord, Chancellor of the University of the State of New York voiced the sentiment of the Board of Regents in reference to rural school problems. Among other things he said:

"Perhaps the most serious problem to confront the Regents lately is the rural school situation. In this State there are 3,600 schools having an attendance of 10 pupils or less. Fifteen schools have 1 pupil only, 167 have 3 only, 392 have 5 only, and so on. Of the 10,500 school buildings outside the cities and large villages, 8,600 are one-room and one-teacher rural schools. Here the school group is so small that activities cannot be carried on properly.

"The Regents appreciate this situation. They have made repeated efforts to better it. Four years ago they inspired a law for consolidating and enlarging districts, but the increased cost drew the disapproval of the rural communities and the law was repealed. The discouraging feature is the indifference of the rural people themselves. Each rural district has a school trustee. Recently, a questionnaire to 827 of them asking, 'Are the parents of your district satisfied with the schools' was answered by 772 saying that they were satisfied. They fear that any changes will bring added taxation. And this despite the fact that in the school of 15 or 20 pupils, in age from young children to young men, the teacher may have to instruct in all of the eight grades which necessitates her hearing from twenty-five to thirty-seven recitations a day.

The average in all one-teacher schools of the State is twenty-seven classes a day, and the average time devoted to each class is less than 10 minutes. As just said, there are 8,400 such schools. Just now the problem is under the active consideration of the so-called Committee of Twenty-one who are completing a survey of the rural schools. This committee has large representation from the rural districts. Much is expected of this report, which is nearly ready, and which will start a highly interesting public discussion. The Regents will welcome any suggestion that promises any change for the better."

The Undernourished Child

Milk feeding for undernourished school children has been introduced into forty cities and twenty-eight incorporated villages in New York State. In some schools it is provided twice daily, in the middle of the morning and in the middle of the afternoon session; in some schools it is served in the middle of the morning only. A graham cracker is usually taken with the milk. The milk is ordered in half-pint sealed bottles. The school provides straws, and each child sips his milk from the bottle through the straw. No equipment is needed. Paper cups are used if the dealer will not deliver the milk in half-pint bottles.

The milk feeding in most communities is conducted without expense to the board of education as the children themselves are asked to pay for the milk. For the children who need the milk and can not afford to pay, funds are usually obtained from the local mothers' clubs and parent-teacher associations or other organizations. The milk feeding at school has been the means of teaching many children to like milk who at home had refused to drink it. Its value therefore is educational as well as nutritional.—*University of the state of New York, Bulletin to the Schools.*

Saskatchewan Schools and the New-Canadians

A TRUE STORY OF NATION-BUILDING

J. T. M. ANDERSON, M.A., D.PAED.

THE hero of this little story was born in Ireland some twenty years ago and while in his teens emigrated to Canada along with many other sturdy sons of Erin who are helping to build up a strong Canadian nation. He entered an Eastern University and later was a student missionary in several Saskatchewan centres. He was pursuing his theological studies when the Great War broke out and he promptly answered the call, shouldered his rifle and shortly after was in the front

line in France. His lot fell with the Scouts and as Scoutmaster he led his men through many hazardous adventures. On one occasion he crawled through the treacherous wire entanglements which guarded a German trench, and discovered one of his chums in a most difficult situation. The latter with two or three men were holding back at the point of their revolvers a much larger number of Germans. They had already shot ten but were rapidly becoming exhausted. The brave scoutmaster called to his chum and asked him how long he could hold out. "An hour" was the reply and the scout shouted back "I'll have your men here before an hour". Hastily he crawled back and was soon leading a body of men through the German barbed wire. His chum was relieved and was later made a V.C. The scoutmaster received a Military Cross—and four bullet holes through his body.

The war has ended. The scoutmaster came back to take his part in the building up of Canada. He looked around for some work in which he might best serve his fellow-men. He decided that no bigger work was to be done than that which had to do with training the thousands of children of alien parentage to be good Canadian citizens. He volunteered to go into a Non-English settlement as a public school teacher. He placed the matter before his wife—a trained nurse who had served in France throughout the war, and who, by the way nursed him back to life when he lay in a war hospital seriously wounded—and she enthusiastically endorsed his plans.

I visited them a short time ago and found them living in a little shack —about eight feet by ten feet—on the school grounds of R-school district. A large army tent was pitched near by to provide extra accommodation. The people were largely Ruthenians and about fifty children were enrolled in the school. They had only been in charge a few months but they had already won their way into the hearts of these people. Homes had been visited and little acts of kindness performed with the result that young and old alike loved the teacher and his wife. The former scoutmaster through his affable manner and Christian character soon dispelled all feelings of aloofness and suspicion, and the ready assistance rendered by his wife in cases of sickness and sorrow gave these humble people a brighter vision than they had ever had before of what it means to be a citizen of this great land of freedom. The school boys heard that their teacher had been a soldier and had won a decoration and they insisted upon his "telling them all about it". After much urging he yielded and taking the boys out to a shady nook on the school grounds he explained to them his thrilling experiences throughout the war. He is their hero and is exerting a mighty influence over these bright young New Canadians.

What do you think of these people?" I asked the teacher.

"I am delighted with my whole experience here" was his eager reply. "They are using me like a prince. Look at those potatoes, those eggs, those cabbages. These people are continually showering me with presents of various kinds. Look at that pen of chickens. One day a Ruthenian woman brought me a rooster. The next day another good old soul brought me a hen, later other chickens were brought and I'll soon have to get the Board to build me a hen house. My wife and I are already in love with these people and I feel convinced that if their children do not become good Canadian citizens the fault will be ours not theirs".

The trustees were interviewed during my visit and a resolution passed to borrow money at once to erect a larger teacher's residence, and also to increase the teacher's salary.

This is the experience of dozens of teachers who during the past year have volunteered to work among the non-English.

Recent Magazine Articles and Reports on Education

Natural Resources, Canada, Vol. I, No. I, December, 1921. Published by the Department of the Interior, Ottawa, monthly, for the purpose of promoting interest and supplying information respecting Canada's natural resources and their development. It will be sent free on application. *The Natural Resources Intelligence Branch, Department of the Interior, Ottawa.*

Classics and Science, by Lord Milner. The Presidential address to the Classical Association. *The Times Educational Supplement, January 14th, 1922.*

The Geddes Report. The full text of the section of the report dealing with education. *The Times, Educational Supplement, February 18th, 1922.*

A Line of School Reform. An experiment in rural education to bring the school into closer touch with practical life. The work of a committee nominated by the government of Finland in 1912. *The Times, Educational Supplement, February 25th, 1922.*

The Educational Work of the Boy Scouts by Lorne W. Barclay, Director of Department of Education, Boy Scouts of America. *Bulletin, 1921, No. 41, Bureau of Education, Washington, D.C.*

The Educational Work of the Girl Scouts, by Louise Stevens Bryant, Educational Secretary, Girl Scouts. *Bulletin 1921, No. 46, Bureau of Education, Washington, D.C.*

Proceedings of the Fifth and Sixth Annual Meetings of the National Council of Primary Education, 1920 and 1921. *Bulletin 1920, No. 47, Bureau of Education, Washington, D.C.*

A Study of Rural School Conditions in Ohio, prepared by Vernon M. Riegel, Assistant Superintendent of Public Instruction. 1920. *The Superintendent of Public Instruction, Columbus, Ohio.*

Preparation of Teachers of the Social Studies for the Secondary Schools, by Edgar Dawson, Ph.D. *Bulletin 1922, No. 3, Bureau of Education, Washington, D.C.*

Salaries of Administrative Officers and their Assistants in School Systems of Cities of 25,000 Inhabitants or More, by Walter S. Deffenbaugh. *Bulletin 1921, No. 30, Bureau of Education, Washington, D.C.*

The Journal of Educational Method, Vol. I, No. I, September, 1921. Monthly. The Publication of the National Conference on Educational Method, Chicago, Illinois. The officers of the Conference are: President, C. L. Wright, Public Schools, Huntingdon, West Virginia; Vice-President, Margaret Noonan, Harris Teachers' College, St. Louis, Missouri; Secretary-Treasurer, James F. Hosic, Teachers College, New York City. *The World Book Co., Yonkers-on-Hudson, N.Y.*

Fourth Year Book, National Association of Secondary School Principals, 1920, 114 pages. *George Banta Publishing Company, Menasha, Wisconsin.*

The Relation of the Federal Government to Education. The Proceedings of a Conference. Installation of David Kinney as President of the University of Illinois, 1921. *The University of Illinois, Urbana.*

The Township System, a documentary History of the Endeavour to Establish a Township School System in the State of New York from the Early Periods through the Repeal of the Township Law in 1918, by Thomas E. Finegan, Deputy Commissioner of Education and Assistant Commissioner for Elementary Education. Volume I of the fourteenth annual report of the State Education Department. *The University of the State of New York, Albany, 1921.*

School Grounds and Play, by Henry S. Curtis, discusses area, and equipment of school grounds, a curriculum of play and games, the community centre. It contains a bibliography. *Bulletin 1921, No. 45, Bureau of Education, Washington, D.C.*

Book Reviews

Teaching to Think, by Julius Boraas. New York, Macmillan Co., 1922. Pp. XI+289. This is an excellent book to put into the hands of a student, but a vicious one to put into the hands of a busy reviewer. Mr. Boraas ought to know that reviewers "skim" books as quickly as possible and write up their impressions in very general, non-committal terms. Yet how can any reviewer skim a book which bristles with thought-provoking questions on every page; which challenges his ingenuity by several score of puzzles and problems that simply must be solved, if only to preserve his self-respect? Here is a book that a busy man thought he could read and review in an evening—and the task has taken all the spare time of a fortnight. Yet he solemnly states that he feels that it has been worth while, and that he has thoroughly enjoyed the task. "Teaching to Think" is a delightfully fresh book, full of good sound sense, and the writer predicts that it will be one of the most popular and stimulating books for reading circles that has been written in a decade. P. S.

The Distribution and Relations of Educational Abilities, by Cyril Burt. London (L.C.C.), P. S. King, 1917. Price 2/11. This important research is now in its third edition and has been followed by a more extended study which we hope to review later. Let it be stated at the outset that it is technical in character, although a person non-versed in statistics will be able to garner much from the clearly stated conclusions. Burt uses a coefficient of variability where most people would now use McCall's "T". The conclusions reached are those which the researches of Thorndike, Terman and others have made us familiar with on this side of the Atlantic. As illustrations we may quote the following: With defectives "the amount of retardation in educational attainments is far greater than that in general ability". "The dis-

tribution according to educational attainments at each age approximates the normal curve". "More are retarded than accelerated through the standards (grades)". "The differences between individuals tend to grow larger as the individuals themselves grow older". "Between the normals and the defectives there is a distinct overlap". "Among individuals of an ordinary school class, ability in any one subject tends on the whole to be accompanied, to a greater or less degree, by ability in nearly every other subject". Burt finds that the subjects which are positively correlated fall into three (or four) fairly distinct groups: (1) an arithmetical group; (2) a manual group; (3) a linguistic group; and (4) a composition group which, however, is related fairly closely to group (3). Burt also believes that "school achievements are due to mental qualities of two kinds: first, a general ability entering into all school work; secondly, special aptitudes for particular subjects". The diagrams with which the study is illustrated are beautifully lithographed. All in all, the work is what a research should be—careful and painstaking with the results conservatively stated. P. S.

Book Notices

Constructive Lessons in English for the Foreign Born, by Nina J. Belengier. Cloth, 169 pages. Boston, Richard G. Badger, 1922. This book is the work of an experienced teacher who experimented in the National Army Schools and then supervised the instruction of foreigners for three years. It is claimed that the use of the material in this book has reduced by 67 per cent. the time for learning to read English in the Evening Elementary Schools of Detroit.

Piers Plowman Social and Economic Histories, Book I., by J. J. Bell, M.A. Cloth, 244 pages, illustrated. Price 3s. London, George Philip & Son, Ltd., 1922. This latest volume of an excellent series deals with English history from prehistoric times to 1066. Teachers of early British history will find this volume very useful.

Civic Science in the Home, by Hunter and Whitney. Cloth, 416 pages. American Book Co., New York, 1922.

Calculus and Graphs. by L. M. Passano. Cloth, 167 pages. The Macmillan Co., Ltd., Toronto, 1922.

Organization and Curricula of Schools, by W. G. Sleight. Cloth, 264 pages. Price $2.00 Longmans, Green & Co., Ltd., New York.

Teaching to Think, by George Boraas. Cloth, 289 pages. Toronto, The Macmillan Co., Ltd.

School Shop Installation, by L. Greene. Cloth, 100 pages. Price $1.25. The Manual Arts Press.

From Roman to Tudor, Tudors and Stuarts, From Revolution to Waterloo, and *A Hundred Years of Change.* by Janet S. Haig. Limp cloth, 96 to 112 pages each. McDougall Educational Co.; Toronto, Oxford University Press. This is an attractive set of history readers for Public Schools.

Readable School Physics, by J. A. Cochrane. Cloth, 131 pages. Price 2/4. London, G. Bell & Sons, Ltd.

A Band of Brothers, by Charles Thurley. Cloth, 476 pages. Toronto, Thomas Nelson & Sons, Ltd.

Graded Bible Readers, Books I.-VI., Cloth, 172 to 444 pages each. Toronto, Thomas Nelson & Sons, Ltd. These readers are based on the text of the Revised Version, which has been revised to meet the requirements of school reading. Incidents and forms of expression which modern usage regards as not suitable for children, have been either omitted or re-translated under expert advice. Books I-III are for ages 9-12; Books IV-VI are for ages 12-15. All are illustrated in black and white with reproductions from Nelson's Bible Wall Pictures.

In Storyland, Misunderstood Children, Two Children of the Foothills, by Elizabeth Harrison. Cloth, 168-294 pages each. Price $1.40 per vol. Toronto, The Macmillan Co. of Canada, Ltd., 1922. These are three volumes of children's stories by one who has made a special study of child life and child character.

Distribution of Abilities, by Cyril Burt. Boards, 93 pages. London, P. S. King & Son, Ltd.

Community Drama: Suggestions for a Community-Wide Programme of Dramatic Activities. Paper, 156 pages. Pub. by Community Service, 1 Madison Ave., N.Y. Price 60c.

Europe, Series III, by A. A. Davey. Paper, 96 pages. Price 9d. London, Edward Arnold.

Preliminary English, by F. J. Ratz. Limp cloth, 143 pages. Price 2/3. London, Methuen & Co., Ltd. A new junior composition for pupils in secondary schools based on examination of models.

Selections from Daniel Defoe, by H. K. Hawkins. Limp Cloth, 131 pages. Price 2/-. London, Methuen & Co., 1922.

Notes and News

The Ontario Men Teachers' Federation

H. A. HALBERT, B.A., TORONTO

The Principals, Assistant Masters and Manual Training Instructors of the Toronto Public Schools met at supper in the Waverley Hotel April 4th and organized a "local" of the Ontario Men Teachers' Federation. Mr. H. J. Vallentyne, the representative of District No. 8, acted as chairman.

Lt.-Col. W. C. Michell, Principal of Riverdale Collegiate Institute, gave a very interesting address. Following short reports by the President and Secretary the following officers were elected: President, T. I. Davis; Vice-President, C. Brokenshire; Sec. Treasurer, Wm. Flumerfelt; Committee: T. A. MacDonald, S. A. Watson, F. Charles.

The following resolutions were passed: (*a*) That the local organization be completed and a constitution drafted. (*b*) That necessary appointments relating to officers representing the District on the Provincial Executive be made. (*c*) That closer alliance with the Secondary School Teachers' Federation and other organizations of common interests be effected.

The sixty-first annual meeting of the Ontario Educational Association was held in the University of Toronto on April 18th, 19th and 20th. Before the General Association, addresses of welcome were given by the Hon. E. C. Drury, Premier of Ontario, and by President Falconer of the University of Toronto. Dr. Theodore Gerald Soares of the University of Chicago spoke on "Moral Values in the School Curriculum"; Professor L. J. Morison, of Queens University, Kingston, on "Young Canada, A Study in the Relation between Canadian Nationality and Canadian Education"; Dr. J. T. M. Anderson, M.A., Director of Education among the New Canadians, Saskatchewan, on "The Public School and Nation Building." The President's address was delivered by Dr. John Waugh. In the four Departments and nineteen Sections now comprised in the Association, many excellent papers were read, reports of which will appear in later issues of THE SCHOOL.

Mr. J. G. Elliott, Editor of the Kingston *Whig*, a member of the Trustees and Ratepayers' Association, was elected President of the O.E.A. for the coming year.

Mr. Arthur W. Morris, M.A., lately appointed Public School Inspector for the city of Hamilton, has been appointed principal of the Hamilton Collegiate Institute at a salary of $4,500, to succeed the late Dr. John B. Turner. Mr. Morris was formerly Classical Master of the Hamilton Collegiate Institute. A biographical sketch will be found in the December, 1921, issue of THE SCHOOL.

W. D. Lowe, M.A., has resigned his position as Principal of the Windsor Collegiate Institute to accept the position as Principal of the new Technical School at Windsor at a salary of $5,000.

Mr. John McKellar, B.A., has resigned his position as Mathematical Master in the Jarvis Street Collegiate Institute, Toronto, to accept a position on the staff of the London Collegiate.

Mr. H. S. Rosevear, M.A., Science Master of Port Arthur Collegiate Institute, has been appointed Principal of Kenora High School.

Quebec

The continued growth of protestant schools in Montreal amounting to a total increase of 78 classes last year, has compelled the Protestant Board to erect a new school besides Royal George, consisting of thirty new rooms, and an extension of twelve rooms to Royal Arthur School. There will also be a new high school ready next year with thirty new rooms. Even with this addition to accommodation, there will probably be a need for other new buildings in the immediate future.

The University of Bishop's College received a grant of $100,000.00 from the Provincial Government to be payable in instalments. This small university is getting one-tenth of the annual grant and one-tenth of the amount for endowment from the government that was given to McGill University, Montreal.

The Rev. Dr. Bedford-Jones has resigned his position as principal of Bishop's College, and will terminate his connection at Easter. He is returning for the present to church work, and a committee has been appointed to consider the appointment of a successor.

Principal Stanley Scott of Dufferin School, Montreal, is returning to the principalship of St. Francis College High School, Richmond, Que., where he had previously been principal. Other appointments to St. Francis College High School include Miss May E. Astell, and Miss Marion Smith at present in attendance at the model school class at Macdonald College.

Mr. Kenneth Mactavish, at present in the model class has received an appointment at St. Lambert High School, and the Misses Doris Wyman, Margaret Higginson and Violet Millar have been appointed to positions as grade teachers in Macdonald High School.

Mr. Harold Cook, principal of La Tuque Model School, has resigned his position to continue his course at Queen's University. His place will be filled by Miss Clara Buckland, B.A., who is at present assistant principal of Longueuil High School. Miss E. C. Brown, Port Daniel Centre, has also been engaged by the La Tuque Board.

Miss Jessie Hamilton at present teaching in Longueuil has been engaged by the Outremont School Board for next year.

This Board has also granted leave of absence to Miss Roberta McLean, B.A., who is at present on the staff of the Strathcona Academy.

Miss McLean intends to pursue her studies in languages at the University of Geneva, Switzerland, and will return to Strathcona Academy to resume her duties in 1923.

Miss Evelyn Williams has been engaged to complete the school year at Hemmingford.

Mr. Fred Cook at present at Macdonald College, has received an appointment in Strathcona Academy.

Dr. Wellington Dixon, for many years Rector of the Montreal High School, has resigned his position, and will be succeeded by Mr. I. Gammell, B.A. The new high school in Montreal is to be called the Baron Byng High School, and will continue the technical work at present carried on by the Commercial and Technical High School, but the new pupils coming into this high school in Grade VIII, will follow the courses as given in Montreal High School.

Mr. E. Montgomery Campbell, B.A., has been appointed principal of the Baron Byng High School.

Manitoba

In Brandon, Manitoba, where civic finances have become a serious problem, the suggestion has been made that the difficulty might be met in part by decreasing the salaries of teachers. The Board has now made an issue of the matter. When the teachers declined a reduction of twenty-five per cent. in their present salary scale they were given notice terminating their contracts on April 30th.

The teachers have taken the position that a deficit in the finances of the city is not a sound and proper principle upon which to base a reduction in the salaries of teachers since it asks a few individuals to bear a burden that properly belongs to the whole body of citizens. They point also to "the well-known fact that during the years of the war and right up to Jan. 1921 (some six years) the teachers were consistently underpaid." The teachers state that they are willing to continue their services through May and June at the present schedule of pay.

The present schedule of salaries in Brandon is a result of a decision of the Board of Reference adopted in June, 1920.

The Executive of the Manitoba Teachers' Federation have approved of the action taken by the Brandon teachers and ask teachers in Manitoba to observe a professional attitude.

The School

A Magazine devoted to Elementary and Secondary Education in Canada.

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The Ontario College of Education
University of Toronto,
Toronto.

Ontario Department of Education

Teaching Days for 1922

High, Continuation, Public and Separate Schools have the following number of teaching days in 1922:

January	21	July	..
February	20	August	..
March	23	September (H. S. 19)	20
April	14	October	22
May	22	November	22
June	21	December	16
	121	(H. S. 79)	80
		Total (H. S. 200)	201

Dates of Opening and Closing

Open.....3rd January	Close ..... 13th April
Reopen .....24th April	Close..... .....29th June
Reopen (H. S. 5th Sept.) 1st September	Close.....22nd December

Note.—Easter holidays (14th April to 23rd April, inclusive), Midsummer holidays [from 30th June to 31st August (H. S. 4th September), inclusive], Christmas and New Year's holidays (first two days of January, 1922, and 23rd December, 1922, to 2nd January, 1923, inclusive), all Saturdays and Local Municipal holidays, Dominion or Provincial Public Fast or Thanksgiving Days, Victoria Day, the Anniversary of Queen Victoria's Birthday (Wednesday, 24th May), the King's Birthday (Saturday, 3rd June), and Labour Day [1st Monday (4th) of September], 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, and the days on which school is closed under the provisions of the Public Health Act. The above named holidays are taken into account in this statement, so far as they apply to 1922, except any Public Fast or Thanksgiving Day, or Local Municipal holiday. Neither Arbor Day nor Empire Day is a holiday.

ONTARIO TEACHERS' MANUALS, ETC.

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, the Manual entitled "Topics and Sub-Topics", has 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:

	Net.
Teaching English to French-speaking pupils	15c.
Manual Training	40c.
Sewing	20c.
Topics and Sub-Topics	10c.
Sewing Chart (Set of 10)	$2.00

(2) The following publications are also obtainable from the Department of Education:

The Great War in Verse and Prose	20c.
The Schools Acts (cloth bound)	75c.
do. (paper cover)	50c.
Mathematical Tables	25c.
How the Fight was Won	20c.
Geographical Changes	15c.
Map of Ontario	$3.66
Canadian Girl at Work	$1.25

(Remit by Money Order. Stamps not accepted.)

OVER

(3) The editions of the following Ontario Teachers' Manuals, bound in cloth, from a local bookseller, or the publishers:

	Retail	Postage
Primary Reading, Copp, Clark Co., Toronto (Revised 1920)	35c.	7c.
Notes on Ontario Readers, II, III, and IV, Copp, Clark Co., Toronto	26c.	11c.
History, Copp, Clark Co., Toronto	14c.	5c.
Composition and Spelling, Copp, Clark Co., Toronto	20c.	9c.
Arithmetic, Copp, Clark Co., Toronto	20c.	9c.
Household Management, Copp, Clark Co., Toronto	19c.	7c.
Literature, Copp. Clark Co., Toronto	15c.	6c.
Grammar, The Ryerson Press, Toronto	14c.	6c.
Geography, The Ryerson Press, Toronto	16c.	7c.
Nature Study, The Ryerson Press, Toronto	19c.	8c.
Art, The Ryerson Press, Toronto	40c.	18c.
Writing, The Ryerson Press, Toronto	19c.	5c.
Suggestions for Teachers of Science, Copp, Clark Co., Toronto	33c.	7c.
Elementary Agriculture and Horticulture, The Ryerson Press, Toronto	29c.	7c.
Household Science for Rural Schools, The Ryerson Press, Toronto	40c.	7c.

The following Ontario Normal School Manuals, bound in cloth, may be purchased from a local bookseller, or the publishers:

	Retail	Postage
Science of Education, The Ryerson Press, Toronto	32c.	9c.
History of Education, The Ryerson Press, Toronto	29c.	7c.
School Management, The Ryerson Press, Toronto	30c.	8c.
Manners, McClelland & Stewart, Toronto	25c.	4c.

A discount of 20 per cent. off the prices of the Normal School Manuals and the Manuals listed under (3) above is allowed when the books are purchased from the publishers, express or postal 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. It may be obtained from the publishers, The Copp, Clark Co., Ltd., Toronto, 45c.

The above Syllabus is now superseded by "The Syllabus of Physical Training for Schools, 1919". A copy is being presented to each school by the Executive Council, Strathcona Trust. No information is obtainable at present regarding its purchase in Canada. It is published in England.

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The School

"Recti cultus pectora roborant"

Editorial Notes

Summer Schools

The summer school has become an established feature in the educational life of Canada. Each year its appeal becomes wider and more compelling. The teacher who wishes to prepare himself for a wider field of service or to acquire some special skill or knowledge, finds his annual opportunity in the summer school. It was formerly the case that the teacher in service found himself bound by the extent of his acquirements when he began to teach. If, afterwards, he wished to improve his standing, it meant giving up work for a year or more to attend school or college. Of course, the more ambitious and industrious did in many cases extend their field of knowledge from books, or correspondence, or incidental contact with those who knew. But it was uphill work. Now opportunity is brought to the teacher's door.

Apart from the actual studies pursued, it is no small advantage for a teacher to be able, in the leisurely way that a month's holiday alone makes possible, to associate for some weeks with other teachers whose attainments are about equal to his own, and whose interests are the same. It is something to counteract the influence of a school environment that necessarily, for the most part, confines the teacher throughout the day and most of the year to contact with the minds of children. That the opportunities of the summer school are appreciated by teachers, is made evident by constantly increasing enrolment from year to year.

John Henderson, M.A.

Ontario teachers will appreciate the action of the University of Toronto in conferring the degree of Doctor of Laws on Mr. John Henderson, M.A., for long and eminent service as a teacher in this Province. For many years Mr. Henderson was classical master in the St. Catharines Collegiate Institute, when it was achieving a province-wide fame under the principalship of the late Dr. John Seath. On the retirement of Mr. Seath in 1883 to become a high school inspector, Mr. Henderson was appointed principal in his place. For twenty-six years under his guidance, the school maintained its high reputation. Mr.

Henderson's classical scholarship was as notable as his teaching ability. Though Mr. Henderson has for some years been living on his Sabine farm, a dream of many a school master and university professor, he has by no means lost his interest in education. He is still a regular and welcome visitor at the annual sessions of the Ontario Educational Association and is honorary president of the Classics section.

The O.E.A. The sixty-first annual meeting of the Ontario Educational Association presented few surprises. "Happy is that nation whose annals are dull." Let us hope that there is something in the analogy. Many stirring speeches were made and many resolutions passed, especially in the Trustees and Ratepayers Association. But with the high school commission still functioning, with various teachers federations, elementary and secondary, tending to absorb certain other and very lively interests of the teacher, the energy of the sections tends to be diffused over isolated points of aim, method or scholarship. More definite results would probably be obtained if the officers of the various sections would plan for a year's work ahead and focus the attention of the section on a definite subject under the guidance of a small committee, which might subdivide the topics among its members and report the following year. In this respect the English and History section has for years shown a praiseworthy example.

Many methods have been tried in the past to bring to bear on current educational problems the experience and skill of the teacher in active service, but nothing has yet been found that will quite take the place of the free-for-all discussions at the O.E.A.

It is to be regretted that the part of the proceedings of last year containing the papers of those who contributed to the programme is not available. These volumes always contain much that is of general interest to teachers and is well worth publication. But this would go in a smaller volume. Would it not be worth while to leave the choice of papers to be printed to a small committee of the general association that would acknowledge no claim of a department or a section for space beyond the fact that the paper was of permanent interest? A generous and profitable rivalry might ensue.

News Items During the next three months there will be many changes in the teaching staffs of Canadian schools. When readers of THE SCHOOL write to renew their subscriptions or to give notice of change of address, it will be an easy matter to add to the letter a brief statement of the change, and particularly of the new position to be filled. It will be interesting news for the September number.

Teachers' Salaries

This month, hundreds of university and high school graduates throughout Canada will turn their minds to a definite choice of life work. The personnel of teaching staffs throughout Canada for years to come will depend largely on the choice they make. The general increase in salaries of teachers in recent years is evidence that governments and trustee boards are realizing the importance of this problem. These increases are not excessive. They are long overdue and will doubtless be maintained. Fortunately, incidents like that in Brandon are rare.

Walter H. Elliott

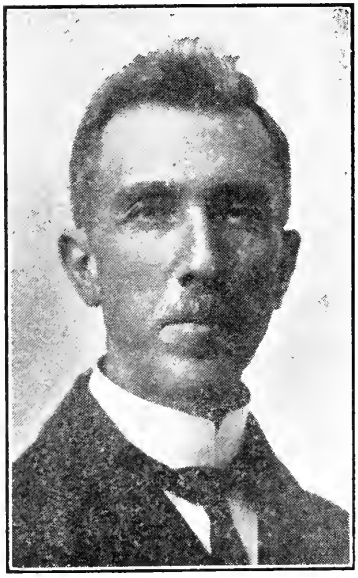
For many years Walter H. Elliott, senior Inspector of Public Schools for the city of Toronto, had been one of the outstanding figures in the Public School life of his Province. As a young man, and his cheerful enthusiasm seemed always to keep him young in spite of the passing years, his experience was varied and his promotion rapid. A graduate of Queen's University, he went after a year in a rural public school, to the Hamilton Collegiate Institute as a specialist in English and History. Public School work claimed him again when he became Principal of the Hamilton Model School. In 1899 he became assistant principal of the Toronto Normal School and in 1908 became, for a year, principal of the Stratford Normal School. For the last twelve years he had been a Public School Inspector in Toronto. His energy was never confined by the routine duties of his position. He was known as the author of educational books and articles, as an active participant in the work of the Ontario Educational Association and as a Past President of the Toronto Teachers' Association. In the wider field of citizenship he took an equally active part. Few men as alert and aggressive were at the same time so cheerful and full of kindly sympathy. Hundreds of Ontario teachers, when they learned of his death, felt that they had lost a personal friend as well as a leader from whose presence they had always gone out to the duties of life with a lighter heart, and a renewed courage.

WALTER H. ELLIOTT, B.A.

Recent Appointments

JOSEPH GREY ELLIOTT, KINGSTON, ONT.
President for 1922-3, of the Ontario Educational Association.

At the annual meeting at Easter of the Ontario Educational Association, Mr. J. G. Elliott, President of the *British Whig*, Kingston, was elected to the office of President. Mr. Elliott has been for almost thirty years a member of the Board of Education in Kingston, and for almost as long has taken an active part in the work of the trustees' section of the O.E.A. During its existence of more than sixty years, the Ontario Educational Association has had a long line of distinguished presidents. Not all of these have been professional teachers. The interests of education are wider than the school room, and members of the O.E.A. will welcome the election of this distinguished citizen and journalist whose long experience in educational administration has brought him into close and frequent contact with the problems of the teacher.



E. T. SEATON, B.A. B.Paed.

Mr. E. T. Seaton, B.A., B.Paed., has been appointed Inspector of Public Schools for the city of Hamilton in place of Mr. Arthur Morris recently appointed principal of the Hamilton Collegiate Institute. Mr. Seaton brings to his new task a wealth of experience in various types of educational work. He has been assistant and afterwards principal in both rural and urban schools and in high schools and has been since 1908 on the staff of the Hamilton Normal School. He is a graduate of Queen's University and a Specialist in Mathematics.

Criticisms of Grammar*

PROF. G. M. JONES
Ontario College of Education

THIS subject was placed on the programme because some members of the committee thought it wise to consider whether we are going too far in our revolt against grammar as it used to be taught. At the time of the Renaissance the secondary schools were called Grammar Schools, and grammar was one of the very important subjects. At the present time grammar not only has a very precarious position in the curricula of English-speaking countries generally, but has disappeared altogether as a separate subject in many schools.

The present critical, hostile attitude of many educationists towards English grammar is largely the result of the excessive formalism of the subject as it has been taught. On the theory of formal discipline the grammar was taught for its own sake, and was often made very difficult even for adults. Classification of the parts of speech and of phrases and clauses was carried to absurd lengths. Perfectly true, but quite useless distinctions were emphasized, as though they were important. Parrot-like parsing with endless detail was demanded even of young children. Finally a bewildering terminology, too largely based on Latin, was used. For instance, *give* in such a sentence as *You shall give it* was called a root infinitive, while *to give* was called a gerundial infinitive.

As one interested in grammar I frankly admit that grammarians and teachers have erred grievously, and are very largely responsible for the disrepute that has come upon the subject and upon them. On the other hand, I wish to point out that a great reform has taken place in both the matter taught and in the methods of teaching. The newer grammars simplify very greatly all kinds of classification. Such terms, for instance, as abstract and concrete, as applied to names, are either omitted altogether or placed in inconspicuous foot-notes. Many useless distinctions have been abandoned. The school children of Ontario and of other provinces have been bothered for generations by factitive objective predicate adjectives, but this barbarous term and the distinction beneath it have gone, or are going. Parsing of the old kind has long been abandoned, and teachers accept very simple statements about the classification and syntax of words, phrases and clauses. Formal definitions linger on in some texts, and in some schools, but they will soon disappear.

* An address given before the Education Section of the American Association for the Advancement of Science, Dec. 1921, in Toronto.

With regard to terminology a revolution has taken place in both Great Britain and the United States. Thanks to the efforts of French, English, and American committees, a new, simplified, uniform terminology has been evolved, and has been adopted very generally. In France the recommendations of the French commission were adopted in 1909 by the Ministry of Public Instruction. The English committee's report was issued in 1911. It has been approved by three English government committees, those on Modern Languages, Classics and English, and it has been adopted generally by the authors of new English text-books. The American report, issued in 1913, has met with very general approval, and its terminology is found in practically all of the new grammars published in the United States.

These three reports on terminology are not unanimous, but they are in very general agreement, and have paved the way for future international uniformity. In the meantime each report has accomplished a very great deal for its own country. In the United States, for instance, the American Report has removed the scandal of the use of eighteen different terms for such a simple relation as that of *president* in the sentence *We made John president.* Besides, it has lightened wonderfully the task of the child studying one or more foreign languages, since, as far as possible, the same terms are used in all the languages.

Of course there are opponents of the new terminology. Some critics prefer their own pet schemes of classification to those adopted. Others, savagely intent on simplification, would disregard the plain history of plain words. Still others see in the new nomenclature an attempt to fasten Latin terms on English grammar. In particular, they object to calling the English cases nominative, genitive, dative and accusative. However, a very strong argument from the point of view of English grammar is put forward by the American Committee. Besides, there is the very great advantage that these same terms are used in Latin and German.

Grammar is attacked from another point of view. Certain educationists state that none of the usual claims for the value of grammar as a school subject are valid. Men like Franklyn S. Hoyt, Louis W. Rapeer and Thomas H. Briggs claim that the study of grammar has no disciplinary value, that very little grammatical terminology is required for the study of other subjects, and that a knowledge of English grammar is of little help in the study of other languages, in English composition, or in the interpretation of literature. In nearly every case their conclusions are based on experiments, and are expressed in the form of correlations.

The matter of formal discipline may be dismissed almost without comment, since teachers of English, unlike some teachers of Classics,

do not wish to retain any subject on the curriculum because of its disciplinary value alone.

As far as I have discovered, no tests have been made to determine the effect of a knowledge of English grammar on the learning of foreign languages. However, teachers of foreign languages are unanimous on the point. They all agree that the pupil who knows a reasonable amount of English grammar can learn French, or German, or Latin grammar much more easily than the pupil who is ignorant of English grammar. Daniel Starch in his Educational Psychology (1921) reports a series of tests on 54 university juniors and seniors and 146 high school pupils, which seem to show clearly that the study of foreign languages improves the knowledge of English grammar. I believe that a similar series of tests would show that a knowledge of English grammar helps much the mastery of foreign languages, especially when a uniform terminology is used. Mr. F. S. Hoyt tried to prove the contrary in the Elementary School Journal for November, 1906, by a series of statements the validity of which may be judged by his dictum that English is essentially a grammarless language, so unlike the highly inflected Latin, Greek, German and French languages that its grammar can give little help. In the first place, English is in no real sense grammarless. In the second place, French is not a highly inflected language. In the third place teachers of all the languages not only claim that a knowledge of English grammar does help, but that when this knowledge is lacking, they have to spend their time teaching the grammar which should have been taught in the English class.

Mr. Hoyt[1] and Mr. Rapeer[2] attempted to prove that grammar is of little importance in either composition or the interpretation of literature by *calculating* correlations based on series of tests in grammar, composition and literature. Mr. Hoyt[1] estimated the probable true correlation between grammar and composition as .30, between grammar and interpretation as .35, and between interpretation and composition as .41; and then he asserted that these correlations were not sufficiently great to lead us to believe that "knowledge of, or proficiency in, one of them depends upon, or is materially influenced by, a similar attainment in either of the other abilities". These gentlemen have overlooked two points. In the first place, a knowledge of grammar is only one element in successful writing and interpretation, and yet a very important one. To write well one must have not only grammatical accuracy, but ideas, imagination, vocabulary, and a certain amount of rhetorical skill, and some of these are more difficult to acquire than grammatical accuracy. It is not at all surprising, therefore, that the

[1] Elementary School Journal, Nov. 1906.

[2] Journal of Educational Psychology, Mar. 1913.

correlation between grammar and composition is only .30. In the next place these critics of grammar have overlooked the fact that the correlations mentioned above are just as great as those between the four fundamental processes and arithmetical reasoning. C. W. Stone, as reported by Starch, arrived at the following correlations as the result of testing five hundred school children:

Arithmetical reasoning and addition	.28
" " " subtraction	.32
" " " multiplication	.34
" " " division	.36

Addition, subtraction, multiplication and division are necessary foundations for successful arithmetical reasoning, even if the correlations are not very high. Likewise a knowledge of grammar is necessary with most people for a sure mastery of English composition, whether oral or written. One point in this connection should be emphasized. While the smaller inaccuracies of the speech and writing of school children, such as the use of a singular verb with a plural noun, may, perhaps, be eliminated by dint of incessant correction and drill, only a knowledge of syntax will give a sure grasp of the sentence, the most fundamental, and in some cases, the most difficult thing to secure. I taught composition for many years, and I came to regard a knowledge of the sentence as one of the most essential, and, at the same time, as one of the most difficult things for pupils to acquire. Moreover, this same knowledge of the sentence is often of great assistance in the interpretation of literature.

Another attack still is made on grammar. The critics say that on account of the crowded curriculum, the immaturity of the children, and the small number of errors made by children, formal grammar should not be taught in the elementary school.

They base their arguments on the various studies made since 1915 of the language errors of school children. Dr. W. W. Charters combined the results, and then tabulated the features of grammar which should be taught to enable children to correct their common errors. For instance, he thinks that in connection with the noun children should learn the difference between common and proper nouns, the inflection of the name for number and case, and the four commonest uses, those of subject, subjective complement, object of verb or preposition, and indirect object. Now these are exactly the points commonly taught in the newer texts for elementary schools. Dr. Charters' results are much the same for the other parts of speech, and therefore I need not finish his list. I should however mention that Betz, and Marshall, two of the investigators, found 10 per cent. of the children's errors in the use of the sentence. No sensible teacher or author now wishes to place before the

children of elementary schools any grammar that is not directly practical. The first real question that arises, therefore, is whether we shall correct children's grammatical errors by means of "ceaseless drill" or teach enough elementary grammar with the drill to enable children to know why incorrect forms are incorrect. The advocates of pure drill would correct *could of* only by substituting the correct form, and would cure the use of *like* as a conjunction by drilling tirelessly on the rule "Never use a verb after like". You will notice that under this plan the child learns a rule without any reason for it. I have no hesitation in taking my stand with those who would give children reasons as well as drill, when possible.

The second question concerns the method of presenting the matter of whatever grammar is profitable for children in the elementary school. Shall it be as grammar or as composition? There is general agreement that whatever is taught in the grades below grade VII should be a part of the language work. With the work of grades VII and VIII it does not much matter whether it is called grammar or composition. My own personal preference is to be frank and call it grammar. Only a few days ago I received a new book of "Advanced Lessons in Everyday English" by Emma Miller Bolenius, published by the American Book Co. It is intended for the two upper elementary grades. I have been very much interested to find that it contains quite as much formal grammar as the ordinary grammar text intended for those grades.

It is perhaps worthy of note that the minimal reformers, who find so few different errors in the speech and writing of children, are sworn enemies of what one of them, S. A. Leonare, calls "old purist junk". They would do away with the distinction between *I will* and *I shall*. They would approve of *Who is it for?* but not of *between you and I*. They say that verbs have only two tenses and no passive voice, that nouns have no case except the possessive, that the subjunctive mood is almost imaginary, and finally that English is an almost grammarless language. Such absurdities go far to discount their contentions concerning the need of grammar in the elementary school. As a matter of fact English has few inflections for the subjunctive mood, but a wonderfully complete subjunctive formed by means of modal auxiliaries Instead of having two tenses, English has a "beautifully complete and logical system of . . . tenses".[1]

My views with regard to grammar in the elementary school are those expressed in the London County Council Report on the Teaching of English in the London Elementary Schools, published in 1909. It puts the case thus:

"Our conclusion is unanimous that some amount of definite gram-

[1] London County Council Report on the Teaching of English, 1909, p. 52.

matical instruction, varying with circumstances and aptitudes, must be imparted to our scholars, chiefly for the following reasons.

1. An acquaintance with the leading principles of elementary grammar serves to give emphasis and point to the teacher's correction of the errors his pupils make in speaking and writing. The simple concords, for example, are reducible to rule, and these rules are made most conveniently available for reference by their being stated in technical terms—the language of grammar.

2. As the pupils progress, it is found as a rule impossible, except in a very cumbrous and unsatisfactory way, to discuss such important matters as the structure of sentences, the phenomena of growth, change and decay which make up the life history of a language, or the characteristics which distinguish one writer or one period from another, unless we are able to assume some knowledge of grammatical facts and some familiarity with grammatical terminology; while their absolute necessity, if the child is to attempt the study of a foreign language, will be generally admitted.

3. But not only does a knowledge of grammar facilitate and systematize the labours of the teacher; it is of real advantage to the pupil as well. We wish him to pass over the period of tutorial correction and arrive at the time when he can intelligently criticize his own efforts, and amend his own blunders. This can surely best be done when he has learnt to examine and register the standard usages of our speech; to refer to them as criteria of accuracy, to employ them as a means of avoiding errors and of resolving doubts, and as an antidote against the uncertainty and degeneracy to which one who has learnt merely by the influence of good examples is especially liable when these models are for any reason no longer available. He thus becomes his own examiner. His imitations become more rapid, more intelligent and less liable to error. He gains by their help a certainty and facility which the study of mere corrections could never secure.

We regard grammar, therefore, as a most valuable adjunct to the effective and intelligent teaching of composition, and, if for no other reason, would retain it in our programmes of instruction".

It is worth recalling that this report was issued after a period of four years during which many English elementary schools had ceased to teach grammar except incidentally. The present English regulations call for grammar, and lay down what shall be taught.

I have no time to deal with grammar in the secondary school. In England there seems to be little question of the suitability or usefulness of the subject in secondary school programmes. In the United States there are great differences. Some schools, if we may judge by programmes and text-books, are still teaching the subject thoroughly;

others are treating grammar as a very small part of composition. In Canada, High School grammar holds an apparently secure place in all the provinces except Ontario. In this province it is very seriously threatened with extinction. It is an optional subject only. It is not required for matriculation into the universities, and candidates for teachers' certificates may substitute Latin grammar for English grammar. I might add the following statement of my opinions as a basis for discussion. On account of the immaturity of the pupils in elementary schools, only the elements of grammar should be taught there, and this teaching should be done principally in grades VII and VIII. The greater part of English grammar should, therefore, be reserved for the High School, where the pupils are more mature, and where many are studying foreign languages. The best language from which to learn grammar is, in the case of English-speaking students, English, not Latin.

May I sum up my views by saying that grammar when properly taught is a thoroughly useful subject in both elementary and secondary schools. The difficulty is entirely with the old-fashioned curricula, the old, out-of-date text-books, the antiquated terminology and poor methods of teaching.

Agricultural Nature Study

DAVID WHYTE, B.A.
Toronto Normal School

Some Enemies and a Few Friends in Our Gardens

A FEW weeks ago you planted your gardens with the greatest of care and now you are watching with delight as the young plants take their first peep above the brown earth. But already enemies are busy destroying these plants and wrecking your hopes. In the front ranks of the enemy hosts are cutworms, wireworms and root maggots.

CUTWORMS: These are short, fat, greasy-looking grubs. They are usually of a dark gray colour, but certain species are variegated by dark lines along their bodies. They are the larvae of grayish moths (Fig. 1 b) that make up a large proportion of the "millers" that gather around lights on summer evenings. The cutworm gets its name from its habit of cutting through the plant stems at or near the ground. It is nocturnal in its habits and in the morning it retires to a burrow an inch or more below the surface of the ground usually close to the plant it has just destroyed. If the soil around this plant is carefully pulled

aside the marauder can generally be found. When disturbed it coils into a spiral and feigns death (Fig. 1 a). As soon as it senses that it is unobserved it begins to burrow into the soil and disappears with surprising speed.

Cabbage, tomato, celery and other plants may be protected to some extent by placing around them, when they are being set out, cylinders of stiff paper or of tin set into the ground to a depth of two inches. The most effective mode of combating cutworms is by poisoning them with sweetened bran mixed with Paris green. For the details of this method see page 4, Bulletin No. 201, Ontario Department of Agriculture.

WIRE-WORMS: Wire-worms are hard, slender, flattish worm-like creatures of a yellowish colour. They are the larvae of chick-beetles. All children have amused themselves by watching the acrobatic feats of these beetles. When placed upon the floor, flat on their backs, they will suddenly spring upward, turn a summersault in the air and alight upon their feet. Wire-worms accumulate in the soil of old grass lands such as pastures and lawns and feed upon the roots of plants. Their ravages are very serious even upon the grasses, but when grain or vegetable crops are planted in soil that has become infested with these pests the destructive work is much more noticeable because the plants are fewer in number.

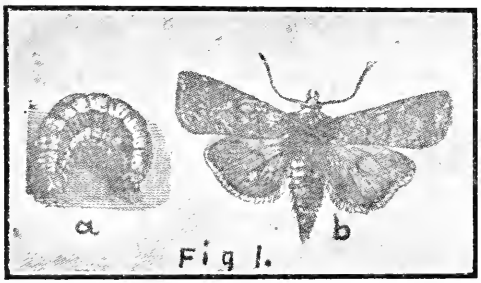


Fig 1.

As the wire-worms feed entirely under the ground there is no effective means of poisoning them. Here is a case where prevention is better than cure. Short rotation of grass and cultivated crops will prevent the wire-worms from becoming numerous in the soil. Fall plowing also helps. When hogs uproot sod land they usually do so in search of wire-worms or for white grubs. The latter are large fat grubs and are the larvae of June beetles.

ROOT MAGGOTS: There are several species of these. One attacks the roots of onions, another the roots of cabbages, another the roots of radishes. They are the larvae of small insects which somewhat resemble house flies, but they are much smaller. The adult lays its eggs upon the stems of vegetables and the larvae, when hatched, make their way down the stem to the roots and feed upon these.

Cabbage plants may be protected by passing the stem of each into the centre of a disc made of tar paper. These discs prevent the larvae from reaching the roots.

The flies that lay their eggs on young onion plants may be poisoned by means of sweetened water containing arsenate of lead. For details of this process see page 24, Bulletin No. 251, Ontario Department of Agriculture.

Garden Friends

So numerous are the insect pests of garden and field that it is not surprising that the gardener should become an Ishmaelite in the sense that his hand is turned against every insect. He thus comes to commit the crime of slaying many of his most willing helpers, for among the insects are certain ones that are the chief agents in controlling the insect enemies of the gardens and fields.

LADY-BIRD BEETLES: Among our insect allies the lady-bird beetle, also called the lady-bug, is probably the best known and most kindly treated. Perhaps the well known rhyme,

"Lady-bug, Lady-bug, fly away home,
Your house is on fire, your children will burn,"

which never fails (?) to hasten the homeward flight of the distressed mother, is responsible for this sympathetic tolerance; without being aware of the usefulness of this insect, the child spares its life.

The larvae of the lady-bird feed upon the aphids, the so-called plant lice that attack the leaves of almost every vegetable, shrub and tree of garden and orchard. The lady-bird larvae are not prepossessing in appearance, for they are short and fat and are covered with short spines (Fig. 2 a). Every one should learn to recognize these larvae lest he fall into the mistake made by a certain gardener who laboured industriously at capturing and destroying them because he thought they were the parents of the plant lice.

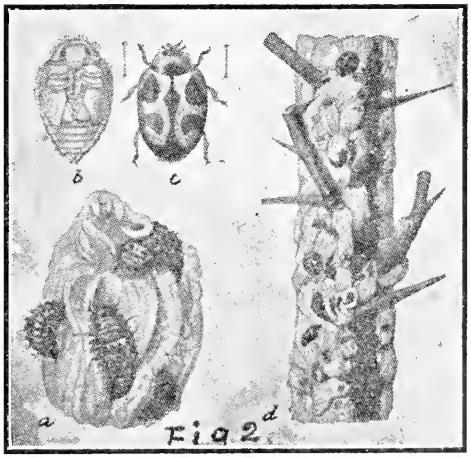


Fig 2.

BRACONIDS: Among the many remarkable instincts possessed by humble creatures none is more wonderful than that which guides the parent insect in depositing her eggs where the young will find suitable food. This relieves the parent from any farther responsibility in providing for her offspring. The operation of this instinct is the means of placing certain insects in the ranks of the allies of the gardener.

The Braconid-flies deposit their eggs in the bodies of insects, grubs, and caterpillars and these are destroyed by the larvae that emerge from these eggs. Fig 3 shows a sphinx caterpillar covered with the cocoons in which the braconids are pupating.

The cabbage worm is attacked in a similar way by the larvae of the chalcis fly and from the chrysalid of the cabbage worm there sometimes emerges, not a butterfly, but a host of small chalcis flies.

THE COMMON GARDEN TOAD: Several years ago a small stream flowed with winding course along a shallow ravine that lay some distance to the north of what was at that time the limits of the city of Toronto. From the many pools that were the miniature lake expansions of this stream there arose in the mid days of April of each year the thrilling chorus of a happy toad choir. Scores of the joyous singers could be counted in a walk of a few hundred yards along the stream, and in the closing days of the month long strings of eggs, like necklaces of tiny black beads, could be seen coiled among tufts of weeds and submerged sticks in the shallow water of the pools.

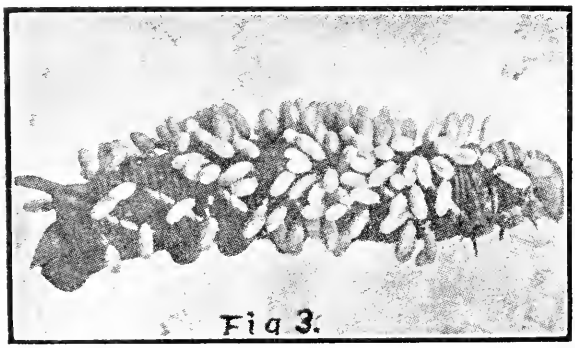


Fig 3.

By and by the urchins from the gradually advancing margin of the city discovered this toad sanctum and gone forever were the peace and safety of the choristers. For the next few succeeding years it was not unusual to find more dead than living toads in the pools. The battered bodies gave silent evidence that the toads were being cruelly slaughtered to gratify the thoughtless spirit of destruction so commonly found in young boys who have not learned through instinct or training to appreciate animal life.

The spectacle of a wounded toad of this colony, with its tiny hands clasped above its head as though in supplication for deliverance from two monsters (in the person of two small boys), who were pelting the poor creature with stones, was so pathetic that a witness of the scene became from that moment the avowed champion of the despised toad. If the teachers will, through the nature study lessons, lead the children to realize that the quantity and the quality of the delicious fruits and healthful vegetables for our tables depends in no small measure upon the help the gardener gets from the homely toad, the boys will surely

treat this little creature more humanely. Moreover, if the teachers can impress the pupils with the conception that, despite its homely appearance, the toad possesses a beauty of a higher type than that of form or colour, namely the beauty of perfect harmony with its surroundings and of fitness in a remarkable degree for securing its living in its own special way, the children will cease to look upon the toad as a repulsive object and will come to treat it with the respect that is due it as one of the most wonderful of Nature's creatures.

The following description will provide a basis for the observational study of the habits and structural features of the toad.

Nature has provided the toad with a body that is low and flat and has given the animal power to magnify these qualities to a remarkable degree. As it lurks flattened out in its shallow burrow, its rough surface harmonizes so completely in texture and colour with the surrounding soil that the animal is quite inconspicuous. To maintain harmony with its surroundings the colour of the toad changes through a wide range, varying from light yellowish gray to almost black. Add to these characteristics the toad's instinct of hiding, which directs it to "lay low" and to burrow farther into the ground by a backward movement that is scarcely noticeable and we will perceive that the toad's means of escaping observation are quite complete.

The skin of the toad contains many glands. Certain ones of these secrete a fluid, which, though it is harmless to even the tender skin of a little child, has an irritating effect upon the mouth of an animal that attempts to seize the toad. If a young dog, keen for adventure, takes a toad into his mouth he will at once drop it with various signs of distress, and he can never again be induced to repeat the experiment. There is, of course, no truth in the belief that toads, if handled, cause warts.

Toads frequently suffer from lack of moisture and prefer to make their burrows in cool, moist situations. The writer has a pet toad that lives under a piece of plank beneath the tap to which the garden hose is attached. Such a moist location is a boon to the toad, because it keeps the skin soft and in better condition for breathing, for these creatures breathe largely through the skin. Moreover, since toads cannot drink as other creatures can, all the water they get is absorbed through the skin. This helps us to understand why toads gather around wells when the weather is dry. In their efforts to get sufficient moisture they sometimes fall into the well, where, like the fox in the fable, they find more water than they require.

Upon the arrival of cold weather the toad retreats farther and deeper into his burrow and there he passes into a hibernating state. We sometimes hear stories of toads being dug out of soil that had frozen solid and the toads themselves are described as being dead, but nevertheless

they revive when thawed out. There is more than a little truth in these statements. In cold situations the circulation and all life processes may stop, but if the blood and protoplasm of the heart are not chilled much below the freezing point the frozen parts will revive.

In April when the ice has melted from the waters the toads travel long distances to their favourite nesting places in the ponds and streams. A toad may lay as many as 12,000 eggs. These are scarcely larger than pin heads and are fastened by a white jelly-like substance into long strings which twine around roots and weeds and thus the eggs are prevented from being swept away by waves and currents. The length of time required by the warmth of the water and the energy of the sun to hatch the eggs varies with the weather. Under favourable conditions, four days after the eggs are laid the young tadpoles are out clinging to water weeds apparently by their chins. In reality the tadpole clings by means of a disc-shaped sucker which is below the tip of what corresponds to the chin.

In July the tadpoles have almost changed into baby toads. They now take daily land exercises at the margins of the ponds. The final exodus from the water in search of homes on land usually takes place on a rainy day. On such a day the atmosphere is well suited for making the transition. The great number of baby toads that are sometimes seen during such an exodus has probably given rise to the belief that toads fall from the clouds during rain storms.

Toads do not return to the nesting pools until they are three or four years old. How marvellous is the instinct that guides them, after this long interval, to the waters in which they had their birth! The toad is called an amphibian because it is fitted for living both on land and in water.

Toads live to be very old. There is reliable evidence in one instance of a toad that lived to be thirty-six years of age.

Close observation of a toad when at rest will enable one to detect the breathing movements of the membranes of the nostrils and also a rhythmic movement of the throat. The latter movement is of different frequency from the former and is a swallowing movement which forces the air into the lungs. This is necessary because the toad has no ribs to give the chest movements of respiration.

The eyes of the toad are placed like watch-towers upon the highest point of the head and are so set that the creature can see in all directions. The eyes are prominent but they can be withdrawn into the head, where they are safe from injury and where they are not likely to attract attention by their brightness. Look closely into the eye and do not fail to note its beauty, a shining oval of darkest jet set in a band of gold.

The ears are behind and slightly below the eyes. Each is a flat oval

consisting of a tightly stretched membrane, the drum for responding to sound vibrations. This is covered by a thin skin.

The hind legs of the toad are adapted to a variety of uses. The length, the strong muscles, the arrangement of the parts into a system of levers make it possible for the animal to make long, quick hops. The five toes are connected by a web which is a very efficient swimming organ, and the short, strong spur of hard, hornlike material just back of the first toe is very useful for digging.

For a long time the gardeners of central Europe, fully convinced that the toad is a valuable ally, have protected him and encouraged his presence in their gardens. The toad is possessed of remarkably good powers of digestion and has an appetite that demands four square meals each day. As his food consists entirely of living, moving objects, he is, of necessity, a most energetic and persistent hunter. In the dusk of evening and later in the light from a window or a street lamp we may see him on the alert for passing prey. Watch him closely. A moth is fluttering a short distance away. Heedless of the motionless lump of clay it flutters still closer. The toad opens his mouth and the moth is gone. That is all we can see. If the toad that has been kept in the school-room while the observation lessons are being conducted is allowed to become quite hungry, he will help us to understand what really happens. Tie a small feather to the end of a fine thread and swing the feather a couple of inches away from the toad's nose. A pale pink streak will be seen to dart from the toad's mouth with lightning speed and to return as quickly taking the feather with it. The streak is the animal's tongue which is fastened at the front of the mouth while the inner end is free. The surface of this peculiar tongue is so sticky that the prey has small chance of escaping if once it is touched by the sticky surface.

In addition to moths, flies, grasshoppers, crickets, caterpillars (even hairy ones), cutworms, and other pests of the garden, go to make a meal for this industrious hunter. The following statistics, based upon very careful investigations, show the actual value of a toad to the farmer and gardener: In three months a toad eats 9,936 injurious insects and of this number 1,988 are cut-worms. Counting the cut-worms only and estimating their damage to the crops at the very low rate of one cent. per worm, the estimated value of the labour of a toad for a single summer is $19.88.

We need no further proof to convince every school boy, whose interest in the farm or garden has brought him into contact with the never-ending struggle in combating insect pests, that the toad is a valuable ally, who has at least a squatter's right to the little that he asks, and that little is nothing more than a lodging place under the verandah or beneath the wood pile.

Primary Department

M. ISABEL WILSON
Ryerson Public School, Toronto

Trying Days

EVERY teacher has days when things simply will not go right. June days are especially trying. There are plenty of bright days so why not on those days plan for attractive things to spring surprises on the little folks. June is the month of reviews. We must repeat and repeat and then repeat. But in order to keep the interest we must vary our drills, seek out surprises and introduce games. Only in this way can we have satisfactory results in a review. Vigorous interest on the part of the children and attention to the work in hand are of much more value than wearisome doing over and over of the same tasks. Half as much time and twice as much interest will bring better results. Therefore in reviews we look for novelties, we vary our plans, and work with intensity.

If the reading has all gone wrong don't blame the children. Remember they are tired, too. Routine is trying. Here is a plan one teacher tried. She took up the entire reading period by illustrating the lesson on the board. The lesson was the story of the Three Pigs, pages 55-59 of the Ontario Primer. She let the children draw the pictures on the board and write under them the words that they were supposed to represent. The pictures were as crude as could be and the spelling was not always right, but the children sat in breathless silence while they watched those at the board. The next day they read the lesson and read it well. Do you think that period was lost?

Another device to help things run smoothly is to give out coloured paper and let the work be done on it instead of on the uninteresting white paper in the work book.

One teacher changes the pictures on her board every week. Perhaps the picture only needed something added to it. But the addition kindled enthusiasm.

Some little children were tired doing their tables with sticks, blocks, etc. These were old and the days were hot. At recess their teacher said, "Take your little paper boxes (made in manual training period) and bring them back full of the longest blades of grass you can find." The little folks wondered what was going to happen. One little chap said, "Is it a 'prise?" And it was a surprise. When they returned they found a pair of scissors and a ruler on each desk. They were told to cut the grass into one-inch lengths. Then they worked out on their desk

the table of 7 with grass in one-inch lengths. The work was the same, but it was more interesting because worked out with a new medium of expression.

Divide a square into 100 little squares. In these write the numbers from 1 to 100. Have the children add 3 to each number in the first horizontal row thus, 1+3, 11+3, 21+3, etc. Add 4 to the first vertical row thus, 1+4, 2+4, 3+4, etc. Add 2 to the last vertical row thus, 91+2, 92+2. Some day play "Choo, choo train." Have word sound or number cards tacked around the room at intervals of about 3 ft. apart. A row of the children form a train by placing their hands on the shoulder of the child in front. The train starts on its journey. As they come to each station (card) the conductor (the leader) calls out the name of the station (word on card). If he misses he goes to the end of the line and the next child becomes the conductor. If he is able to call all the stations he is retired with honour to his seat and replaced by a child who has not been in the train.

This game gives practice in writing and reading numbers. Put three figures on the board, for example 3, 4 and 5. Have the children combine them in different ways. Have them write on the board and ask other children to read them.

If children can get number facts quicker by playing grocery store, throwing a bean bag, climbing an imaginary telephone pole, or keeping score, then let them learn facts this way. It is the way they teach themselves outside of the artificial setting of the school-room.

Teacher and pupils are in a circle. The teacher holds cards (word, number or sound). She shows the first one and calls on a child. If correct he may call on the next one to answer. There is an expectation and a mystery as to which pupil will be called upon and which card will turn up next.

Here is a new game to play. It is similar to "Puss in the Corner." Each player selects a corner or some object for his home. One player without a home stands in the centre with a ball in his hand. As the other players beckon to each other to exchange places, the one with the ball keeps close watch and tries to hit some one with it as he leaves his home. Anyone who is hit changes places with the thrower.

Do your children know these games? Farmer in the Dell, Puss in the Corner, Drop the Handkerchief, Japanese Tag, Follow the Leader, Go 'round and 'round the village, Cat and Mouse, Three Deep, Cap Tag, Prisoner's Base.

Have you told these stories to your children? Chicken Licken, The Old Woman and Her Pig, The Wolf and the Three Little Pigs, Why the Sea is Salt, Ugly Duckling, Cinderella, Baucis and Philemon, The Blind Man and the Lame Man, The Crow and the Fox, etc.

When the last week of June comes and the year's work is reviewed, does it not give you pleasure that your children have made a steady advance in their "power to do"? They have greater power to make themselves do what they know they ought to do, greater power to do neat and careful work, greater power of self-control, greater power in application and concentration of thought, greater power of self-dependence and greater power to learn as well as to be taught.

Language Training in Form II (Grades III and IV)

MISS KATE STURGEON
Orde St. Public School, Toronto

The Correlation of Language Training with Other School Subjects

BY correlation of school subjects is meant the planning of seasonable lesson topics, which have some connection with one another and are subdivisions of a general theme, for a half-day, day, week, month or season. For instance, at this season of the year one might select "Birds" as a centre of interest and arrange lessons as follows:

Nature Study—1. The Spring Migration of Birds; (2) Value of Birds to Man; (3) How Children can help to protect Birds; (4) How Birds build their Nests, etc.; (5) The Robin, etc.

Literature—Memorization: Sir Robin (Lucy Larcom).

Oral and Written Composition—How the Robin got its Red Breast (see *For the Children's Hour*, by Carolyn S. Bailey), or *The Scarecrow and the Robins* (Celia Thaxter).

Art: Tracing and colouring robins. Picture Study: Feeding Her Birds (Millet).

Reading: Literature selection and written work of pupils, and blackboard work.

Spelling: Suitable words chosen from the above lessons.

The advantages of correlation of subject matter over the presentation of independent subjects treated as separate units are obvious. Knowledge is not regarded as a mass of isolated facts. Different subjects are connected and work is unified and made continuous. The pupil's interest is deepened (his question will often suggest a new topic), his knowledge along that particular line is broadened and his memory strengthened through association of ideas. The method tends towards completeness. Facts developed are reviewed and impressed, *e.g.*, in oral and written composition, reading, art, constructive work, etc. Lesson I forms a basis for review in Lesson II.

Perhaps no subject lends itself more easily to correlation than does Language Training. The following illustration will show how various subjects and topics may be related to language training:

Geography: Following a lesson on "The Silk Industry of Japan" pupils may write letters (first planning paragraph topics) to a friend, *e.g.*, a pupil who has been transferred to another school, or one who has moved to another city, telling what they have learned. Paragraph topics might be (*a*) some articles made of silk, (*b*) where silk threads come from, (*c*) the life history of the silk moth, etc.

Flax—Pupils may impersonate a flax seed and tell its story.

History: Pupils may tell the story of Jacques Cartier's first voyage to New France.

Art: Description of a picture, *e.g.*, The Coming of the White Man (George A. Reid), may follow a picture study lesson on this.

Literature: A Night with a Wolf—Second Reader, page 107. Tell in your own words the story told by the little girls' father.

Nature Study: A bean seed (Lima). Give a description of the bean (1) before and after soaking, (2) outside, (3) inside.

Elementary Science: Write an account of the work of a leaf, describing experiments performed during the lesson. Use illustrations. (Ref., *Handbook of Nature Study*, by Anna B. Comstock).

Writing: A written description of a letter, *e.g.*, W—height, number of loops, curves, points, etc., and of exercises helpful in securing good muscle movement.

Constructive Work: Description of an article made, *e.g.* a box—use, names of parts, measurements, cutting and scoring lines, etc.

Physical Training: Description of correct position of arms, feet, back, in a certain exercise, etc.—benefits of exercise. A boy may be used as a model during oral practice.

Spelling: Practice in correct use of words in different kinds of sentences may be given. Practice in oral expression should precede all written work.

Some examples of correlation of school subjects (twenty to thirty minute lessons) follow:

A. SPRING

I. Birds (see paragraph I.)

Nature Study: The Bluebird.

Literature and Memorization: The Bluebird—Second Reader, page 134.

Art: Tracing and colouring bluebirds. Picture Study: Feeding Her Birds (Millet).

Music: The Bluebird—Music Course, Book I, page 5.

Oral and Written Composition: The Bluebird (see *Stories Children Need*, Carolyn S. Bailey). Select material suitable for children of Grade II.

Reading: (1) Literature selection. (2) Blackboard reading lessons dealing with above topics. (3) Written compositions on above topics.

Spelling: Make lists of suitable words chosen from the above lessons.

Arithmetic: Problems related to the above topics.

II. Flowers

Nature Study: (1) Weeds. (2) A dandelion plant, etc.

Literature and Memorization: Dandelions—Second Reader, page 30. Little Dandelion (Helen B. Bostwick).

Elementary Science: The Work of a Leaf (*The Handbook of Nature Study*, by Anna B. Comstock).

Oral and Written Composition: The Legend of the Dandelion (*For the Children's Hour*, C. S. Bailey).

Music: Dandelion Song (*Nature Songs for Children*, by Fanny Snow Knowlton).

Art: (1) A dandelion (crayon or brush work). (2) Unit of design for borders and patterns (wall-paper).

Reading and Spelling: See above.

III. Gardening

Nature Study: (1) Agencies in the formation of soil. (2) How to prepare a garden. (3) Seed planting. (4) Seeds. (5) Germination. (6) Uses of flowers, etc.

Literature: (1) Waiting to grow. (2) The Little Brown Seed (3) Baby Seed Song (Second Reader, page 14). (4) A Handful of Clay (Second Golden Rule Book), etc.

Oral and Written Composition: (1) Stories in Literature lessons. (2) The Morning Glory Seed, etc.

Constructive Work: (1) Envelope for seeds. (2) Seed boxes.

Art: Stages of seed growth. Illustrations—Planting a garden, etc.

Geography: (1) The Work of a River. (2) Delta. (3) Rain and its Work, etc.

Music: (1) Raindrops' Ride (Book I). (2) The Song of Rain (Book II, page 88). (3) Planting-time.

Hygiene: Benefits (health) of Gardening.

Reading and Spelling: See above.

B. SUMMER

Nature Study: (1) A grass plant. (2) Rice.

Geography: (1) Japan. (2) How Rice is prepared for market.

Literature and Memorization: Song of the Grass Blades:

"Creeping, creeping here and there,
In lawns and meadows everywhere,
Coming up to find the spring
And hear the robin red-breast sing.
Creeping under children's feet,
Glancing at the violets sweet,
Growing into tiny bowers
For the dainty meadow flowers.
We are small but think a minute
Of a world with no grass in it."

Music: The Song of the Grass Blades.

Arithmetic: Problems involving ounces and pounds of grass seed.

Art: A grass plant (crayons and brush).

Oral and Written Composition: (1) The Burning of the Rice Fields (see *How to Tell Stories to Children*, by Sara Cone Bryant). (2) The Value of the Grass Plant.

Constructive Work: A low Japanese table.

Reading and Spelling: See above.

C. AUTUMN

Nature Study: Preparation for Winter. (1) Fall Migration of Birds. (2) How plants prepare for winter. (3) How animals prepare for winter. (4) Underground Stems. (5) Bulbs. (5) Bulb planting. (7) A wheat seed, etc.

Geography: (1) The Silk Industry (cocoons). (2) How Silk Threads are woven into silk cloth.

Language: Raw material, industry, factory product, etc.

Constructive Work: (1) Mat weaving. (2) Woven basket (see Manual).

Art: Picture Study. (1) The Gleaners (Millet). (2) The Angelus (Millet).

Hygiene: The value of wheat as a food.

Literature: (1) September (*Second Reader*, page 64). (2) The Ant and the Cricket (*Second Reader*, page 77). (3) How the Leaves came down, (*Second Reader*, page 85). (4) The Ploughman (see Second *Golden Rule Book*, page 30).

Music: (1) Goodbye to Summer (Book I, page 21). (2) The Gleaners (Book II, page 41).

Oral and Written Composition: (1) The Ant and the Cricket. (2) Nature Stories—Preparation for Winter: The Story of Persephone (see *For the Children's Hour*, by Carolyn S. Bailey).

Reading and Spelling: See above.

D. WINTER

TREES might be selected as a centre of interest.

Nature Study: (1) Parts of a tree and uses of each. (2) Characteristics of Evergreen trees. (3) Planting trees. (4) Wasps (the first paper makers), etc.

Art: (1) Trees in winter. (2) Winter buds. Picture Study: suitable subjects

Geography: (1) The Logging Industry (a visit to a lumber camp). (2) How paper is made from wood pulp, etc.

Literature and Memorization: (1) What we do when we plant a tree (Henry Abbey). (2) The Venturesome Buds. (3) The Tree in Winter.

Constructive Work: Paper tables and chairs, etc. Waste paper basket.

Oral and Written Composition: (1) The Little Pine Tree. (2) The Gourd and the Pine Tree (see *For the Children's Hour*, by Carolyn S. Bailey).

Arithmetic: Problems related to above topics.

Spelling and Reading: See above.

References: *The World Book; The Handbook of Nature Study*, by Anna B. Comstock; *Readers on Commerce and Industry*, by F. G. Carpenter.

Literature—Form III (Grade VI).

AN APPLE ORCHARD IN THE SPRING

THESE are beautiful days in May. The mildness of the air and the bright sunshine have brought out the leaves and blossoms on the trees; flowers are springing up rich in colouring, and green blankets of grass spread out everywhere to gratify the eye. It is a pleasure just to be alive and well in so inviting a world.

From St. Catharines comes the announcement that the orchards in the Niagara Fruit Belt are now in their full glory of bloom and are well worth a trip by parties from Toronto and other places. Thousands of people will respond to this invitation. Why?

What will those who are unable to respond miss?

Read the poem on page 60, Ontario Readers, Third Book, William Martin, "An Apple Orchard in the Spring."

The first three stanzas describe the beauties of an apple orchard in the spring; the fourth stanza is the poet's memory of it. Thus, by means of his memory, "A thing of beauty" has become to this poet "a joy forever."

The arrangement of the stanzas is determined by the progressive development of the blossoms. In the first stanza the buds are turning white, only the tips of the blossoms are seen; in the second, the buds are unfolding; and, in the third, the petals are falling in showers.

The view in the first stanza is from outside the orchard, where it is possible to see "the spreading trees" and the whole orchard at once. In the next two stanzas the reader is supposed to be walking under the trees and plucking the blossoms.

Q. What senses are appealed to in the first stanza?

1. Sight— "Have you seen an apple orchard?"
   "Spreading trees are hoary."
2. Hearing—"the mavis sings its story".

Q. What Canadian birds could be substituted for the mavis or English song-thrush? The robin, warbler and goldfinch.

Q. What senses are appealed to in the second stanza?

1. Touch— "Have you plucked the apple blossoms"?
   "Just to touch them a delight".
2. Smell "caught their subtle odours".
3. Sight— "pink buds pouting at the light".
   "crumpled petals baby white".

Q. What senses are appealed to in the third stanza?

1. Sight— "pink cascades".
2. Hearing—"silver brooklets brawling".
   "cuckoo bird soft calling".

Have pupils observe the prevalence of b's, p's and l's in the lines:

"Pink buds pouting at the light,
"Crumpled petals baby white".

Have them notice also that the effect of these labials and liquids is to give an impression of velvety softness.

Similarly show the appropriateness of such expressions as "hoary", "wealth of promised glory", "pouting", "pink cascades", "silver brooklets brawling", "wonder of the Spring", "precious", "tender".

Use every means at your disposal to lead your pupils to appreciate the music of the verse. There is a decided lilt to the rhythm; notice the alliteration in "Pink buds pouting", "brooklets brawling" and "cuckoo calling" as well as the imitative harmonies in each.

The reading of the poem by the pupils will show to what extent you have been successful in your attempt to lead them to appreciate its beauties. Where schools are equipped with a grafonola and records, additional interest may be stimulated by Mr. F. H. Kirkpatrick's rendering of this poem on Columbia record No. R. 4036.

W.L.C.R.

Geography for Junior Grades

PROFESSOR GEO. A. CORNISH
Ontario College of Education

What is the cause of wind? A very common form of explanation is that air that is hot always rises and this leaves a sort of hole or cavity which cooler air rushes in to fill.

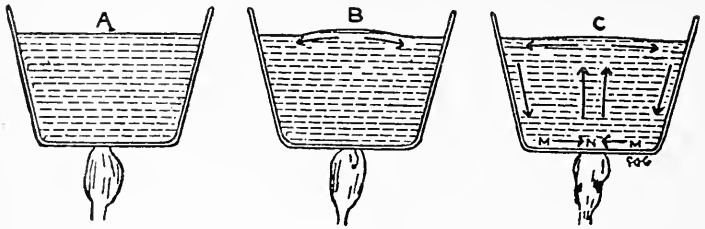


Fig. 1.—Circulation in a dish of water heated by a flame.

This is an error that dies hard. The idea that hot air rises and leaves a hole behind it into which surrounding air rushes has no basis in fact. Hot air, like every other substance, has weight, in other words is drawn toward the earth. Therefore it is inaccurate to say that hot air *tends* to rise. Hot air, like every substance tends to fall and if it rises it *must be forced up*. The idea that it rises and leaves a sort of vacuum behind it into which adjacent air rushes is absurd. In reality as soon as air becomes warm the surrounding air, owing to its greater pressure, presses in on it from all sides so that the hot air is *forced up*. The best way to explain winds to a junior class is as follows:

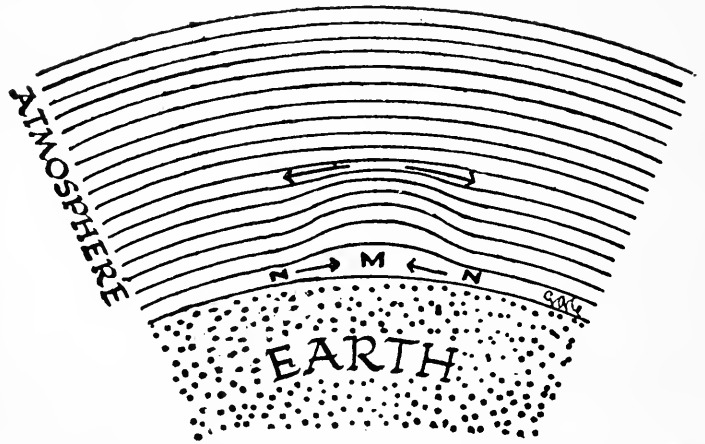


Fig. 2.—The parallel lines represent the successive layers of the atmosphere at M, the lower layer is heated which causes the expansion of the lower layers.

If a small flame is placed under a vessel of water (figure 1) currents are produced in the directions indicated by the arrows in *C*. The causes are as follows. The water directly above the flame becomes heated first. As it expands, the surface becomes heaped up (*B*). At once the water that is heaped up flows off toward the margin as indicated by the arrows in *B*. There is now more water above *MM* than above *N*. Accordingly, the pressure at *MM* is greater than at *N*, and the water at *MM* is forced in under the water at *N* and consequently the water at *N* is forced up. Thus the water circulates as indicated by the arrows in *C*.

Similar motions take place in the atmosphere. If a mass of air near the surface of the earth is heated it expands. The air above it is forced up, and some of it overflows (figure 2). The amount of air above *NN* is thus increased and above *M* it is decreased. Hence the pressure at *NN* will be greater than at *M*, and a surface current will push in from *NN* toward *M*. This is the real explanation of the flow of air along the surface. While this explanation may be too difficult for a second class, it is poor pedagogy to substitute an explanation which is easier to understand but which gives an entirely erroneous idea of the facts.

Grammar for the Fourth Form (Grade VIII)

The Passive Verb Phrase

Aim—To enable the pupils to understand the function of the passive verb phrase and to recognize it when they see it.

Step I.—

1. The boy *has broken* his knife.
2. The knife *was broken* by the boy.

In sentence 1, what kind of verb phrase is *has broken*? (Perfect.)

What other kinds of verb phrase do you recall? (Future, progressive, etc.)

Step II.—Read sentence 2.

What is the verb phrase here? (*Was broken.*) (Teacher underlines as soon as read.)

What kind of verb phrase is this? (We do not know.) Let us see what we can learn about such a verb phrase as this.

Step III.—1. In sentence 1, what action is asserted? (The action of breaking.)

2. Who is represented as performing that action (*or*, as acting)? (The boy.) [Note that an alternative wording of the question is suggested.]

3. What words represent the boy as performing the action of breaking (*or*, as acting)? (The verb phrase *has broken*.)

4. What then is the function of the verb phrase *has broken*? (It represents the boy as acting.)

The teacher now writes on the blackboard opposite sentence 1, the statement,—The verb phrase *has broken* represents some person (denoted by the subject noun *boy*) as ACTING.

Read sentence 2 again.

1. What action is asserted here? (The action of breaking.)
2. What is represented as being acted upon? (The knife.)
3. What words are used to represent the knife as being acted upon? (The verb phrase *was broken*.)
4. What then is the function of the verb phrase *was broken*? (It represents the knife as being acted upon.)

The teacher now writes on the blackboard opposite sentence 2 the statement,—The verb phrase *was broken* represents some thing (denoted by the subject noun *knife*) as BEING ACTED UPON.

How do the verb phrases *has broken*, *was broken* differ? (The answer corresponds with the statements written on the blackboard.)

N.B.—As the real teaching is done in the above step, care should be taken to see that every pupil has grasped the new point.

Step IV.—In the following sentences have pupils select the verb phrases and tell whether they represent some person or thing as acting or as being acted upon.

1. The ball was thrown by a good pitcher.
2. The lad is planting potatoes against his will.
3. Jack was praised for his good work.
4. The ripe apples will be placed in the basket.
5. These trees will bear fruit this year.
6. The fox had been seen by the neighbours.
7. The man is warned by the policeman to go slowly.
8. My brother had caught a rabbit.

These verb phrases should be arranged on the blackboard in two columns, thus:

Verb phrases representing some person or thing:

(1) *as acting*	(2) *as being acted upon*
2. is planting	1. was thrown
5. will bear	3. was praised
8. had caught	4. will be placed
	6. had been seen
	7. is warned

How are those in the first column alike? Those in the second?

Step V.—Pupils are now told that verb forms like those in the first column are called ACTIVE verb forms; those in the second column PASSIVE verb phrases. These names are written on the blackboard.

Step VI.—Pupils are now asked questions that will lead them to

tell the new facts learned. What have you discovered about a passive verb phrase? How does the passive verb phrase differ from the active? Why is —— called a passive verb phrase?

Step VII.—Pupils are next asked to select the passive verb phrases in a given list of sentences and tell why they are so called. Later they may change verb forms from active to passive and from passive to active. H. G. M.

Summer Courses for Teachers

THE general announcement of Summer Courses for 1922 issued by the Ontario Department of Education, contains many items of special interest to teachers. It points out that the new Regulations that came into force in 1921 make it possible for teachers to complete their academic standing for admission to the Normal School First and Second Class Courses with less interference with their school duties. These Regulations permit any candidate to write on one or more papers at a time in June, or in September. At the Summer Course in 1922, instruction will be given in the Middle School subjects, History and Science, and in the Upper School subjects, History, Science, Latin and French.

Under the new Regulations candidates for the Lower or Middle School examinations may take Agriculture in lieu of Science. With an increase in the number of candidates in Agriculture there will be a demand for qualified teachers of the subject in both Elementary and Secondary Schools.

The courses heretofore given at the Macdonald Institute, Guelph, leading to Ordinary certificates in Manual Training, have been discontinued. After completing the two prescribed courses for the Elementary certificate a teacher may qualify for the Ordinary certificate by taking three additional Summer Courses. In 1922 a course will be given in Industrial Design.

Elementary certificates issued in 1922 and hereafter will be valid only in rural Public and Separate Schools. Ordinary certificates qualify the holders to teach Manual Training in any Public, Separate, High or Continuation School.

One of the necessary qualifications of the successful teacher of French is ability to use the language fluently and correctly. To attain this qualification some teachers spend their summers in France, while others, under the direction of special tutors spend their vacation in the Province of Quebec. For the others the Department of Education makes special provision whereby even at one summer session they may obtain very considerable help. The courses are adapted to the needs of those who hold High School Assistants' and First Class certificates.

The need of some form of training of teachers of the shop or practical subjects in Industrial and Technical Schools has been felt for some time. Most of the teachers of these subjects come into the schools from industry, and while they are familiar with the processes, materials and related knowledge of their shop work, they are unacquainted with the principles and untrained in the art of teaching. To meet this need, summer Courses for teachers of vocational subjects are to be conducted in Toronto. Instructors in shop or other practical subjects now teaching on Temporary certificates will be required to qualify for Interim certificates by attending two summer sessions and passing the necessary examinations.

Summer Courses are offered for teachers of Agriculture, Art, Auxiliary Classes, Commercial Subjects, Farm Mechanics, French, Household Science, Kindergarten-Primary Classes, Manual Training, Physical Culture, or Vocal Music; for teachers who wish to complete their academic standing for First and Second Class certificates; and a course for approved School Nurses. The sessions will begin July 3rd and end August 4th.

Provision is made for assisting all teachers in attendance with an allowance for travelling expense and (one dollar a day) for living expenses for not more than six weeks.

The courses in Agriculture will be given at Guelph, Whitby, Kemptville (Part I) and Monteith; those for teachers of Kindergarten-Primary classes at Toronto, Hamilton, London and Ottawa; all other courses at Toronto.

Full details as to courses, expenses, qualifications for admission, examinations and certificates to which the courses lead are given in the circular.

The Summer School in Education

PROFESSOR PETER SANDIFORD
Ontario College of Education, Toronto

THE University of Toronto Summer School in Education is such a hardy annual that it is scarcely necessary to tell readers of THE SCHOOL about it. Suffice it to say, therefore, that the Ontario College of Education will offer courses leading to the degrees of B.Paed. and D.Paed. from July 4th to August 4th inclusive. These courses are the least expensive of their kind in the world, the fee for tuition being only $10.00. The usual subjects of instruction, namely, Science of Education, History of Education, Educational Administration, and Psychology of Education will be offered.

Three new names appear on the list of staff for the Summer School. These are Professor F. E. Coombs, of the Ontario College of Education; Dr. J. W. Bridges, of the Psychology Department of the University of Toronto; and Dr. H. E. Amoss, of the Hamilton Normal School. Professor Coombs will offer courses in the Science of Education, Dr. Bridges in the Original Nature of Man, Measurement of Intelligence and in Educational Statistics, and Dr. Amoss in the other branches of Educational Psychology.

Bibliographies in the various subjects will be distributed to students who register for the courses. Brief outlines of the syllabuses in each of the courses are given below:

I. *Science of Education.* (Professor Coombs).

(*a*) Growth of educational ideas from primitive times to the end of the eighteenth century.

(*b*) Educational ideas of the nineteenth century in detail; advance from the mechanical to the biological concepts; consequent changes in the physiological and psychological concepts; the organic view of society; scope of modern education, its principles and ideas.

II. *History of Education in Modern Times.* (Prof. Macpherson.)

(*a*) Educational theory in modern times. This will include a discussion of social and political theories and conditions as they have affected educational practice or organization in Great Britain or North America.

(*b*) Development of modern educational systems. Attention will be directed particularly to the development of public education in England and in Ontario. A more general summary will be given of developments in the United States.

(*c*) Opportunity will be afforded for special studies based on original sources in the history of education in England and Ontario, especially for those who may intend to prepare theses in this subject.

III. *Educational Administration.* (Dean Pakenham and Dr. Hamilton.)

The lectures in Educational Administration will deal with the systems of Education of Ontario, the United States, England, France and Germany. The following topics will be discussed:

(*a*) Educational Authorities, central and local.

(*b*) The educational system as a whole: the place of elementary, secondary and higher education in the general organization.

(*c*) Elementary education: its aims, organization, curricula, methods and results.

(*d*) Secondary Education.

(*e*) Technical Education.

(*f*) School Inspection.

(*g*) Training of Teachers.

(*h*) Finance.

As far as possible, the lectures will deal with the subject matter above in such a way as to develop and elucidate general principles in educational administration.

IV. *Educational Psychology.* (Dr. Bridges and Dr. Amoss.)

(*a*) The original nature of man—a discussion of man's heredity and native equipment for learning.

(*b*) The learning process—a discussion of the ways in which children learn; habit formation; practice and fatigue.

(*c*) Genetic Psychology—the psychology of childhood and adolescence from the genetic standpoint.

(*d*) The psychology of elementary and high school subjects, including standard tests and scales for the same.

(*e*) Intelligence, its nature and measurement. The various tests of intelligence will be discussed and demonstrations of their use made with individual children or with groups of children.

(*f*) Statistics applied to education; methods of presenting and interpreting educational data by statistical and graphical methods.

Last year over seventy candidates from every province of the Dominion attended the Summer School in Toronto. The signs of the times indicate that this record is going to be broken by the Summer School of 1922.

Summer Session in Arts at the University of Toronto

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto

"PREPAREDNESS" was, a few years ago, a word much overworked. But it expressed a very valuable idea—an idea fundamental in education as well as in other walks of life. The peculiar period through which the world is now passing seems to be one in which education is at last coming into, or being forced into, that sphere of importance which is rightfully its own. Indeed, a new era is dawning in education and though that dawn may be slow it is nevertheless sure. As the importance of education comes gradually to be realized by the general public, so will the status of the teacher be enhanced. And this means that each year will see important educational opportunities, desirable and relatively lucrative educational posts, opening for those teachers who are qualified by academic and professional attainment to fill them. This being the case, it is essential that ambitious

teachers should make use of every available means of fitting themselves for positions that mean promotion.

There are, of course, two types of teachers—those whose view of education is circumscribed by the unavoidable routine of the classroom and those whose vision is broader. Fortunately, in Ontario, teachers of the latter type are greatly in the majority. Few there are who are content with the daily round, who are not ambitious to improve their own qualifications, who are not anxious to see education take its proper place among the professions.

Most teachers in this Province realize that the successful man or woman in any walk of life must not cease to be a student. Progress there must be, progress always, or education suffers. Teachers in this country are perhaps apt to smile indulgently at what they regard as the volatile disposition of the teachers in the United States. But the United States teacher, it must be said, is as a rule very keen to take advantage of opportunities for increased scholarship. Summer Sessions at United States Universities are crowded with teachers in their thousands. Such is not yet the case in Canada, though the fault may not lie entirely with the teachers.

Ontario's Provincial University has a Department of University Extension whose chief function it is to care for the interests of teachers. For the benefit of teachers the regular Arts Course, the Pass or General Course leading to the B.A. degree, has been so adapted that all obstacles in the way of the teacher have been removed. The course has not been made easier—no teacher has ever asked for that—but it has been so arranged that teachers can take it without inconvenience and without discontinuing their teaching. Already some hundreds of teachers have seen what an excellent opportunity is offered them and have begun work on the course. It is part of the policy of the Department of University Extension of the University of Toronto to treat teachers with every courtesy and cordiality, to give in detail every item of information that may be asked for, and to answer all letters promptly, fully, and cheerfully. Every teacher knows that sunshine, in the figurative as well as in the literal sense, is essential in the classroom—it is just as essential in an office.

English, Mathematics, Botany, and French of the Second Year are being offered in the Summer Session of 1922 at the University of Toronto; also English, Psychology, and Science of the Third Year; and English and Science of the Fourth Year. French of the First Year is available for those who did not take that subject with their Faculty Entrance or Upper School examinations.

As a summer resort, Toronto is not surpassed by any city in Canada and it has advantages which few, if any, other cities in the Dominion

possess. To take a Summer Session at the University of Toronto is to spend five weeks of study under conditions almost ideal for the purpose. Accommodation is available in the University residences and no effort is spared to make the five weeks in every way pleasurable and profitable.

German Education After the War

IT is difficult for persons in Canada to obtain reliable information about the changes which have taken place in German education since the establishment of the Republic. It will be remembered that Articles 142 to 150 of the Constitution deal with the subject of education. These are translated below and following them we give an account of how the proposed changes are working out in practice. This latter part of the article was written by Heinrich Becker, of the German League of Nations Union, and translated by H. R. Kemp for THE SCHOOL.

Art. 142. Art, science, and their teachings shall be free. The State accords them protection and takes part in promoting them.

Art. 143. The education of the young is to be provided for through public institutions. In their establishment the nation, territories and local communities will co-operate.

Teacher-training is to be regulated on a uniform basis for the nation according to the generally recognized principles of higher education.

The teachers in the public schools are to have the rights and duties of State officials.

Art. 144. The entire school system is to be under the supervision of the State; the State can ask the local communities to take part in it. School supervision is to be exercised by technically trained officials with administrative ability.

Art. 145. General compulsory attendance shall prevail. This function will be carried out by the public schools with at least eight school years and the supplementary continuation schools up the completion of the 18th year. Teaching and lesson materials in the public and continuation schools shall be free.

Art. 146. The public school system is to be organically constructed. Upon a basic school for all there is to be erected the intermediate and higher school system. In planning for this part of the school system the various vocations shall be the determining factor, and the admission of a pupil to a given school shall be governed by his ability and his inclination, not by his economic position or the religious faith of his parents.

Within the local communities, however, upon the initiative of the parents of the pupils, public schools to accord with their religious belief or philosophy of life may be established, provided the regular educational procedure as set up by paragraph 1 is not interfered with.

In order to make possible the attendance of pupils in poor circumstances at the intermediate and higher schools, public means are to be supplied by the Nation territories and local communities; with special scholarship aids for those regarded as adapted for education in the intermediate and higher schools, up to the completion of the course of study.

Art. 147. Private schools as a substitute for public schools require the approval

of the State and are subject to the territorial laws. Approval is to be given when the private schools are not inferior to the public schools in their aims and equipment, as well as in the professional training of their teaching staff, and provided a division of the pupils according to the wealth of their parents is not promoted. Approval is to be withheld when the economic and legal status of the teachers is not sufficiently guaranteed.

Private elementary schools are only to be allowed when there is no public elementary school of the appropriate denomination or philosophy in the community for a minority of those entitled to instruction whose desires have to be considered according to article 146, paragraph 2, or where the educational authorities recognize a special pedagogical interest.

Exclusive private preparatory schools (Vorschulen) are to be abolished.

The existing law will continue in force for private schools that do not serve as substitutes for the public schools.

Art. 148. Moral training, good citizenship, and personal and vocational zeal in the spirit of the German people and international reconciliation are to be striven for in all the schools.

In giving instruction in public schools, care must be taken not to hurt the feelings of those who think differently.

Civic and industrial training are to be regular subjects of study in the schools. Every pupil will receive a copy of the constitution upon completing his school work.

The system of education for all the people, including the people's universities, is to be promoted by nation, territories, and communities.

Art. 149. Religious instruction is to be a regular subject of the schools, except in the denominational (day) schools. The imparting of religious instruction will be regulated by the school authorities. It will be given in accord with the principles of the religious denominations concerned, in so far as this does not interfere with the State's right of supervision.

The imparting of religious instruction and the utilizing of church institutions are left to the wishes of the teachers, and the participation of the pupils in religious studies and in church festivals and other activities is left to those who have the right of determining the child's religious education.

The theological faculties of the universities are to be continued.

Art. 150. The monuments of art, history, and nature, as well as the beauties of the landscape, are to enjoy the protection and care of the State.

It will be the business of the nation to prevent German art possessions from going to foreign countries.

It seldom happens that the men who played a leading part in history are able or willing to devote themselves to the task of introspection and self-criticism. So it is with many of the leaders of discredited Germany. Some, holding fast to the old system of ideas, believe that the collapse of Germany was due to insufficient emphasis and insufficient application of those views and efforts which they represented. Others attribute their misfortune to divers external circumstances and are content to play the rôle of *laudatores temporis acti*, awaiting the restoration of the old conditions by some miraculous event and refusing heed or help to present evils. These groups cannot reconcile themselves to the transition from the old to the new. But no matter how loudly they raise their

voices, their importance is not great. A new age has come, bringing new tasks.

The important provisions of the new Constitution regarding education are to be found in articles 145, 146, and 148. These provisions are principles designed to last through a long future; and one cannot unreasonably demand that the school system of a nation which has been influenced and guided in one particular direction for decades should undergo a radical transformation in a single day. One must not forget that the men who as teachers and educators are exercising the greatest immediate influence on the school were, for the most part, already exercising their office before the war, and that they came to their maturity in an atmosphere of the most rigid authority and unquestioned nationalism. We must consider all these things; but even so, we cannot avoid the impression that the transformation of the German system is under way.

To understand the new regime one must clearly distinguish between the state schools, including the basic elementary schools, intermediate schools (both modern and classical) and higher schools (universities, technical schools, and other institutions of higher learning), and private schools. Among the private schools must be reckoned a number of educational institutions of quite extraordinary pedagogical importance. In them are engaged some really creative educators and the changes they have wrought are far in advance of the official programme. The state schools exhibit a tenacious resistance to rapid change.

The educational transformation now going on in Germany is the substitution of self-government for the former government by other people, that is, in its deeper sense, the liberation of the creative powers of man. The conflicts over the transformation naturally rage most furiously around the courses of study (*Lehrpläne*) in the school. Only a transformation of all the courses of study and of the methods of teaching can bring about the practical expression of the new tendencies in the spirit of the Constitution. The rate at which this development is proceeding in the various German provinces is naturally far from uniform. Brunswick has shown commendable energy in promulgating instructions having as their aim the reform of the instruction in humane studies. As regards instruction in German, it is required that passages of such a character as to arouse hatred of other nations, so far as they are still to be found in the school books, are no longer to be used for purposes of instruction.

The text-book question is a difficult one. There is a lively struggle in various parts of Germany over the purging of readers and histories of nationalistic and militaristic educational material. The opposition of reactionary elements is particularly great at this point because in many

cases these very selections are prized as a sacred heritage of the nation. The Prussian Department of Education has set up a commission of educators who have made a fundamental study of this question and suggested plans for improvement. It is earnestly to be hoped that these labours, which are so far purely theoretical, may find a very extensive practical application.

A greater immediate effect has been produced on the school system by regulations concerning school organization which have been promulgated in several states. The chief of these problems concerns the organization of the Single Purpose School (*Einheitsschule*), particularly in regard to the primary school question which has now been decided by a regulation of the Department of Education. It was the custom in Prussia for the children of the middle and higher classes to spend their first three years in a preparatory school (*Vorschule*), from which they passed without any special examination to the secondary schools, while the children of the "people" received free instruction in public elementary schools (*Volksschulen*). It will be easily understood that this early separation of children established from the beginning a gulf which later life could never bridge. This organization has now been abolished in Prussia. All children go henceforth to the same basic primary school (*Grundschule*), which has four classes. This change has not only the social advantages previously mentioned, but also the advantage that in these primary schools it is possible to exercise a far better selection of the various capacities of the children, and recognition of the suitability of the children for the various occupations to be chosen later is much more certain. Naturally it will take time to build up a new school system in the spirit of the Constitution which will enable every child to enter the occupation for which he is by nature best qualified.

There are at present two different types of schools which, as well as the usual secondary schools, are to prepare the pupils from the primary school for higher (university) education. These are the intermediate school (*Aufbauschule*) and the German upper school (*Oberschule*). The work of these two schools is very similar. They are designed for a part of the pupils who after the close of the four-year course in the basic primary school will not pass into the higher schools but will remain in the elementary school (*Elementar-schule*). In order that even among these children those who are suitably qualified may later have the opportunity of a secondary school training, they can change over to the intermediate school or German upper school in their eighth school year. These schools conduct the children through a six-year course to the stage where they are prepared for entry to institutions of higher learning. The intermediate school differs from the upper school as follows: The upper school uses German and science (*Realien*) for

educational material while the intermediate school devotes itself more to foreign languages. Moreover the intermediate school is designed to benefit the rural districts as much as possible. Children from scattered villages are to be enabled, through the establishment of intermediate schools, to remain three years longer than formerly in the parental environment without relinquishing the opportunity of higher education. Formerly they had to leave home in their fourth year at school if they were later to enjoy higher education.

Besides these new measures affecting the whole school system must be mentioned a whole collection of institutions which are carrying out interesting innovations in many fields. Hamburg has some schools with pupil self-government, wherein no voice of external imposed authority is heard. Other municipalities have established other schemes. Neukölln (a congested working class district of Berlin) has set up a garden work school. The municipality has provided so much land that about 2,000 children from six schools find their work there. The four upper classes from each of these schools work in the garden for two days each week and at the same time receive instruction there in nature study and allied subjects. Near Bad Orb the Frankfurt Children's Aid Society recently established a country holiday home on a large scale for about a thousand children.

The inner life of the schools is also undergoing change. Instead of a director managing everything, many schools are now controlled by a board or committee (*Kolleg*). Parents' committees are also being created and the pupils are being admitted to a greater share in the management of their school affairs. Pupils are also being granted a choice of subjects in the curriculum. Elementary school teachers, instead of being trained in special normal schools of rank no higher than secondary schools, must now proceed to the universities before being admitted to the office of teacher. Even if in many quarters there is vigorous opposition to the new developments yet, more and more, teachers and educators are coming together, working with the same spirit toward the same goal, with the certain conviction that a new education is the way to a new epoch.

In the locality in which a certain teacher laboured, the children were in the habit of using the rather rare colloquialism "putten" for "put". At every opportunity she endeavoured to correct this error but with indifferent success. One day she wrote on the blackboard, "I have putten the book on the window". "Johnny", said she, "what is wrong about that sentence?"

"Please, ma'am", said Johnny, "you've went and putten *putten* where you should 'a putten *put*".

The Teaching of Geometry

PROFESSOR W. J. PATTERSON, M.A.
Western University, London

PART IV

THE ELEMENTS OF GEOMETRY IN THE HIGH SCHOOLS

Plane Rectilineal Angles

LET O be a point in X′ X, any straight line of indefinite length, and let O A be a definite part of O X (Fig. 1). Let O A rotate about O to the left and in the plane of the paper, into the direction O B. Then the *difference* in *direction* of O A and O B is the angle A O B. The point O is the vertex of the angle, and the lines O A, O B are the direction lines of the angle. The *space* between O A and O B, and the *lengths* O A and O B have *nothing* to do with the angle A O B. The line X′ X is the line of direction reference and the point O is the point of distance reference for all points on lines passing through O.

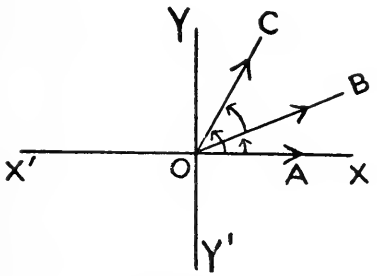


Fig. 1.

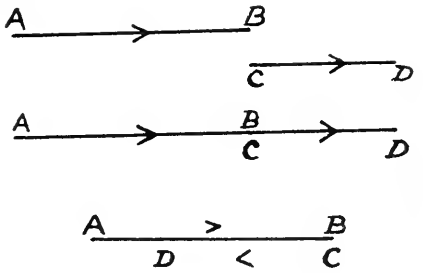


Fig. 2.

DEFINITIONS

1. Magnitude (quantum) is that which is capable of division into *parts* of the *same kind* as the *whole*.

2. Any whole magnitude is greater than any part of it, and equal to the sum of all its parts.

3. A point has no parts, therefore, points can not be added, and a line must not be regarded as the sum of all its points.

4. Every part of a line is a line and every line of finite (definite) length is equal to the sum of all its parts.

5. Every part of a straight line, however short, is straight.

6. A straight line segment C D may be added to another straight line segment A B, by making the point C coincide with the point B and the direction C D coincide with direction A B (Fig. 2).

7. Similarly, C D may be subtracted from A B by making C coincide with B and C D lie in the opposite direction to A B.

8. The parts of an angle are angles; any finite angle is greater than a part of it and is equal to the sum of all its parts. The angle A O C is the *sum* of the angles A O B and B O C.

The angle A O B is the *difference* of the angles A O C and B O C. (See Fig. 1.)

The Sense of Line Segments

9. In the first case of Fig. 2, A B and C D are said to have the same *sense*, by which we mean that a point moving from A to B is moving in the same direction as a point moving from C to D. If we say the sense of A B is positive, then we shall say the sense of C D is also positive and the sense of A C is positive. We express this fact algebraically thus: $+A\,B+C\,D=+A\,D$, or simply $A\,D=A\,B+C\,D$. In the second case, $A\,D=A\,B-C\,D$, the minus sign preceding C D being an order to reverse the sense, or direction of C D, *i.e.*, make it opposite to the sense of A B which we are regarding as positive.

10. In pure arithmetic magnitudes have no *sense*. If we add two arithmetical magnitudes, *i.e.*, pure numbers, the result is greater than either magnitude. But in algebra, we must take account, not only of the muchness of the magnitudes but also of their *sense*. Hence, in algebra, the *sum* of two magnitudes may be *less* than either of them,

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HISTORY AND GEOGRAPHY CATCHES

From *The Teacher's World*, published by Evans Bros., London, Eng.

81. "I suppose you all know that Wellington won the Battle of Water——?"
The class supply "—loo."
"Quite right; and that Nelson won the Battle of Trafalgar——"?
"Square."

82. Who was the father of the Black Prince's son?

83. "If I go to the North Pole it is very, very *cold;* but if I go to the South Pole it is very, very ——?"

84. Where are bloaters caught?

85. What colour are natives?

86. "I wonder if you can tell me where the sun rises?"
"In the East."
"Oh, yes; but that is on a week day. Where does it rise on Sunday?"

87. Which was the largest island in the world before Australia was discovered?

From the Board's Point of View

The Trustees at the O.E.A. The trustees' section of the O.E.A. brought together some seven hundred school trustees from all parts of Ontario, urban and rural. Many important resolutions were adopted. The section endorsed the formation of a Canadian School Trustees' Association and instructed the executive of their Association to invite representatives of all the provincial educational associations to meet in Toronto next Easter to consider the formation of a Canadian Association; they passed a resolution asking that the Trustees' section meet in January or February instead of at Easter; this recommendation will be presented to other sections of the O.E.A.; they voted against the principle of Township Boards as opposed to the present school section system; they endorsed the idea of government provision for Dental, and Medical inspection; they preferred that school taxes be levied as now throughout the township rather than throughout the county as proposed; they endorsed the idea that urban schools should receive the same treatment as rural schools in the distribution of legislative grant; and they voted against the proposal to endorse a board of conciliation in case of disputes between teachers and trustees.

Separate School Grants As the question of Separate School grants has been under public discussion recently, the following statement, made in the Legislature on Monday, April 24th, 1922, by Hon. R. H. Grant, Minister of Education, will be of general interest.

"There has been no change in the Legislation affecting separate schools since the present Government took office. Nor have any changes been made in the regulations affecting the grants to urban or rural schools which would give separate schools more money than the amount to which the law entitles them. The system in vogue during 1920 and 1921 is the one which was in operation before I came to the Department.

The share of the separate schools in the Government grant for elementary education is secured by the Separate School Act of 1863. The clause which applies to this phase of the matter is as follows:

> 'Every Separate School Board shall be entitled to a share in the fund annually granted by the Legislature of this Province for the support of Common Schools, and shall be entitled also to a share in all other public grants, investments, and allotments for Common

School purposes, now made or hereafter to be made by the Province or the Municipal authorities, according to the average number of pupils attending such school during the twelve next preceding months, or during the number of months which may have elapsed from the establishment of a new separate school, as compared with the whole average number of pupils attending school in the same City, Town, Village, or Township.'

The rights set forth in the Act of 1863 are protected, as is well known, by section 93 of the British North America Act, the first clause of which states that the Provinces control education but—'Nothing in any such Law shall prejudicially affect any Right or Privilege with respect to Denominational Schools which any Class of Persons have by Law in the Province at the Union.'

By direction of the statutes, section 6, Department of Education Act, the sums to be appropriated by the Legislature for elementary education are voted under three general heads:

(1) Votes to urban public and separate schools.

(2) Votes to rural public and separate schools, Counties

(3) Votes to rural public and separate schools, Districts.

Under these headings, the following sums were voted for the fiscal year ending October 31st, 1921:

Urban Schools		$ 197,000.00
Rural Schools, Counties	$1,100,000.00	
Treasury Board Order	555,000.00	
		1,655,000.00
Rural Schools, Districts		460,000.00

On the basis of the average attendance in these groups of schools the sums voted were divided between the public and separate schools as follows:

URBAN SCHOOLS:	
Public Schools	$161,540.00
Separate Schools	35,460.00
Total appropriation	$197,000.00
RURAL SCHOOLS, COUNTIES:	
Public Schools	$1,514,490.50
Separate Schools	140,509.50
Total appropriation	$1,655,000.00
RURAL SCHOOLS, DISTRICTS:	
Public Schools	$420,946.00
Separate Schools	39,054.00
Total appropriation	$460,000.00

Note:—The total amount of grants actually paid to the elementary schools differs from the amount voted by a few thousand dollars. This is due to the fact that there are some trifling expenses charged against the legislative vote, such as printing of statistical returns, etc., and a small amount of money is always kept on hand to provide for adjustments of grants. On the Separate School side of the account, moreover, a portion of the grants goes back to Consolidated Revenue because some schools are not obeying the law and cannot legally be paid.

The amounts named in this statement belong respectively to the public and to the separate schools and had to be distributed by the Department of Education each to its own class of schools. There is no warrant for either increasing or diminishing the proportion to be given to public schools or to separate schools, and such has not been done.

The statutes and regulations governing the distribution of the sums voted in support of elementary education among the schools of the Province are the same for public and separate schools. The regular procedure is first to divide the total sum into two parts as directed by the law. The regulations are then applied. As an example, take the vote to rural schools for the year 1921, which was $1,655,000.

This sum was divided on the basis of the average attendance in the schools between the Public Schools and the Separate Schools. The former's share being 91.51% or $1,514,490.50, and the latter 8.49% or $140,509.50. The share belonging to each class of schools was then distributed among the individual schools of the class in accordance with regulations which have existed for many years. These regulations take into account such factors as salaries paid to teachers, accommodations, equipment, grade of teacher's certificate, teacher's experience, and assessment of school section. In this distribution, the Public Schools absorbed their total apportionment; but on the same basis the Separate Schools absorbed only $70,863.71 of their total apportionment of $140,509.50, leaving a balance of $69,645.79, or practically 50%, which unquestionably belonged to and had to be distributed among the Separate Schools. The balance of the allotment for the rural separate schools was distributed *pro rata* among these schools as provided for in the regulations. The procedure in making the distribution is the same in every detail as that which has been followed for several years. The sections of the regulations which provide for a second or *pro rata* distribution are not new. From time to time they have been applied to Public Schools as well as to Separate Schools when balances have remained unabsorbed. For example, the Public Schools in 1919 received a 9.5% and in 1920 a 47% *pro rata* increase of unabsorbed grants.

The operation of the factors determining the distribution has always given rise to inequalities in the amounts awarded to different schools. The disparity which has been complained of between the grants paid to certain rural separate schools compared with those to neighbouring

public schools is, therefore, not a new condition. It has been in existence for years. An examination of the records as far back as 1917 shows that the same schools now cited afforded illustrations of these inequalities from year to year. The inequalities are greater now because the Legislature has made more generous appropriations to elementary education, and the separate school share has been proportionately increased as the law requires.

The increases in the Legislature appropriations for rural schools which have taken place during the past two years have, indirectly, possibly been the chief cause of directing attention to disparities which previously existed. These appropriations were $750,000 in 1919, $1,000,000 in 1920, and $1,655,000 in 1921. The last two increases are the only changes that the present Administration is responsible for and the appropriations have been increased in order to pay in full the grants earned by boards under the regulations established by previous Administrations.

The inequalities can be traced in general mainly to two causes: First,—The total sum of money appropriated by the Legislature for elementary schools is provided for, as has been pointed out, by votes to three different classes of schools—Urban Schools, Rural Schools in Counties, and Rural Schools in Districts—and funds cannot be transferred from one class to another for the purposes of levelling up, even when the proportion of the number of public to separate schools is found not to be constant in all three classes. Second,—While the total sum of money voted for elementary education is apportioned to public and separate schools on the basis of average attendance, the distribution of these sums to individual schools is determined by statutes and by regulations which take into account, not average attendance, but other factors, such as salaries paid to teachers, value of equipment, character of the accommodations, grading of teachers' professional certificates, length of successful experience, and the amount of municipal or school assessment.

The grant per pupil calculated on the basis of the total average attendance of pupils enrolled in either the urban or the rural public schools is exactly the same as the grant per pupil on the total average attendance of pupils enrolled in the corresponding class of separate schools, but, because there may be differences both in the number of pupils assigned to individual teachers and in the factors which determine the grants to be paid to the schools, the grant per school may differ widely in either class of schools. But if one separate school has received more money than it appears to be entitled to as compared with a public school in the same locality, it has received this money at the expense of some other separate school and not of the neighbouring public school.

Not one cent of money which belongs to the public schools has been taken away from them for the purpose of paying higher grants to separate schools, and not one cent of money has been given to separate schools over and above what the law guarantees to them.

. The statutes and regulations governing the distribution of grants among the schools were framed by the former Governments with the sole aim of bettering educational conditions. The largest portion of the grant has been distributed on the basis of the salaries paid, because experience has shown that well-paid and well-trained teachers, with inducements to remain in the continuous service of one school, form the chief factor in rural school improvement. But as no scheme of distribution can be absolutely perfect, it is doubtless true that improvements may be made in the method of distribution, with a view, on the one hand, of lessening the disparity between grants paid to public and separate schools in the same communities, and, on the other, of a more equitable division among the separate schools themselves. The question will receive careful consideration by the Government, and if it is thought advisable, any necessary legislation will be introduced.

But it must be understood that no such change can possibly be made in the Provincial law which will affect the principles of division laid down in the Constitution."

The Rotary Schools of Windsor

W. J. DUNLOP, B.A.
Director of University Extension, University of Toronto.

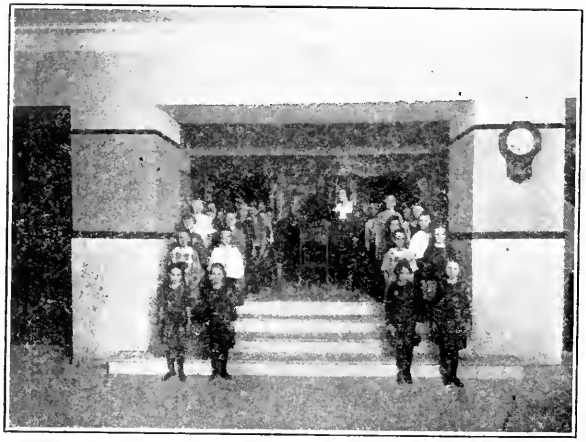
[Do the spectres of Nature Study, Art, and Music haunt you in your dreams and point at you accusing fingers remindful of the many hours you have stolen from them and given to other more mechanical subjects? Do you deal generously in time and energy with your favourite subjects that provide plenty of "busy work" and crowd out the "newer" subjects that demand more preparation and more "pep"? Do the warm days "drag" in your classroom? If so, note how these universal school problems are solved in Windsor.]

FIRST, be it noted that a Rotary School has no connection with a Rotary Club, excellent organization though the latter may be. The term, Rotary School, was invented by Inspector J. E. Benson to designate the new type of school which he has established in Windsor. By the way, the motto printed on official school literature in that city is "Windsor Schools Excel." A slogan like that works wonders.

Prince Edward Public School, the first Rotary School erected in Windsor, serves what may, perhaps, be called the poorer district and is attended largely by children whose parents are not, as yet, blessed with much of this world's goods. It is a large building of about the usual type except that a "wing" projects from the rear. This wing contains

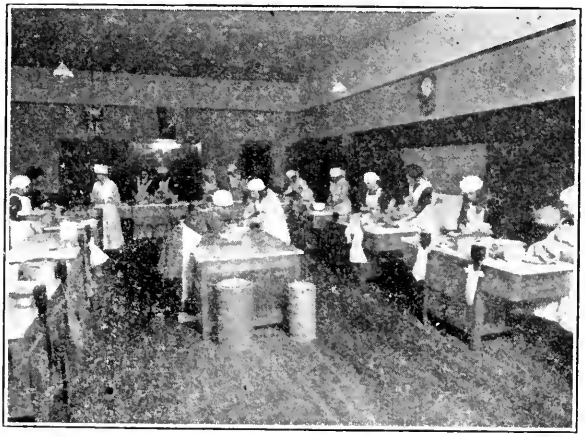
two rooms not usually found in an ordinary Public School—a gymnasium and a large auditorium.

Entering the school one notices first rows of lockers in the middle of the large corridors. Inset in the wall are more lockers and the visitor learns that every pupil in the school has his or her own locker. The visitor has before seen only cloakrooms in schools, steaming cloakrooms in wet weather, and he marvels at this modern innovation.



The Main Entrance to the Auditorium. Classes are leaving.

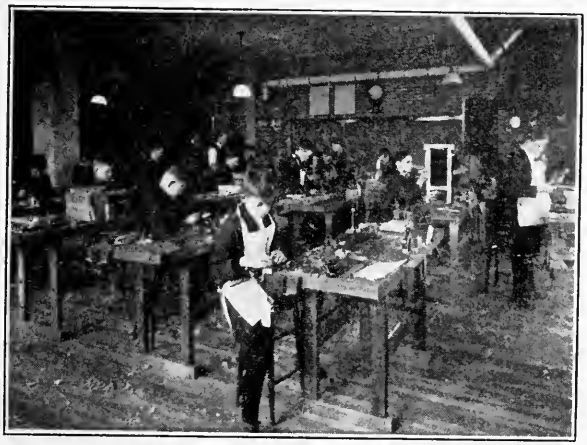
Presently a bell rings and the whole school seems suddenly to be turning itself inside out. To the strains of the victrola at the entrance of the auditorium, long, orderly lines of children pass out of rooms and into other rooms, pass upstairs while others come downstairs, pass into the auditorium and out of the auditorium. Though it is 2.45 on Friday afternoon, a deadly dull time in many schools, these pupils are marching in a "snappy" manner, with smiles on their faces, most of them, and seem to know exactly where they are going. On enquiry it is learned that this is neither recess nor dismissal (though from the children's faces it would seem to be either one or the other) but is the time for the semi-daily "grand change." Those who have been for an hour and a half in the "home



The Household Science Room

rooms" are on their way to the "special rooms" and the others are going from the latter to the former.

Under this roof, it would appear, there are two schools, an "A" school and a "B" school, or an "odd" school and an "even" school. For example, Class 1A and Class 2B are exactly the same in school attainment and receive exactly the same instruction but at different times. In the "home" rooms the old, traditional subjects are taught—Arithmetic, Grammar, Spelling, Composition, Reading, and Literature—while the "special" rooms are set apart for History, Geography, Art, Supplementary Reading, Music, Nature Study, Physical Culture, Literature, Manual and Household Arts. Literature, it will be observed, occurs in both lists but the literature taught in the home room is the detailed, intensive work, while the literature of the special room is the kind learned in libraries and, indeed, it is frequently taught in the school library.

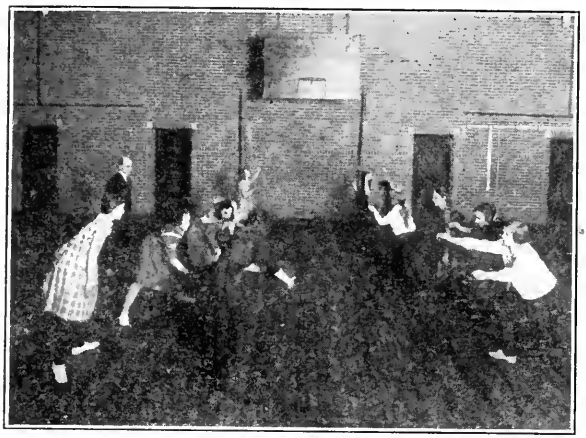


The Manual Training Department

The auditorium is a most important feature of the rotary school. One, two, or three classes assemble here every half hour so that one thousand boys and girls out of a total of eleven hundred and sixty are cared for in this special way each day. The auditorium is in no sense a classroom though much is learned here. It has not the atmosphere, the equipment, nor the restraint of the classroom. Two teachers are in charge and the work varies with the grades or classes. The dramatic rendition of all suitable lessons from the Readers, the recitation of memory extracts, the formation of clubs with pupil officers, safety work, oral composition, debates, dialogues, playlets, pageants, spelling matches, choruses, civics, picture projection, reports on community and civic projects, folk dancing, and public speaking comprise the ordinary work of the day.

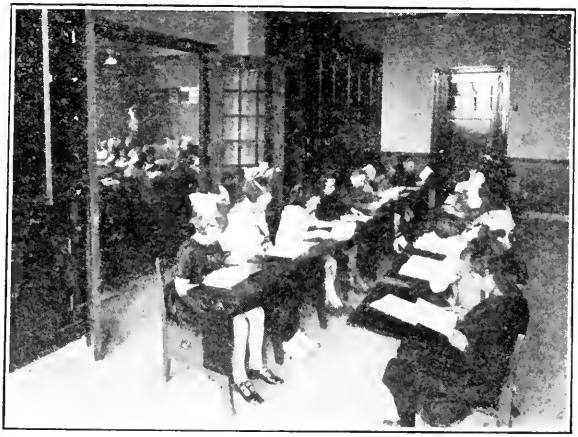
There are no intermissions in the rotary school but the little tots play periods and the one thousand older pupils have half an hour in the gymnasium. To this some educationists will object, for, they say, physical culture can never take the place of free play. And this is true.

But only fifteen minutes of the half hour is devoted to formal physical culture; the other half of the period is used in playing volley ball, basket ball, or some other game, and in running races.



Each Class has a half-hour period in the Gymnasium daily

Having examined the auditorium and the gymnasium the visitor next makes the round of the special rooms. First, he finds the history room and the history teacher. All day long this man teaches history—twelve different lessons to twelve different classes. Many teachers, in sorrow be it said, "just hate" history. This teacher does not; it is his favourite subject. Then why not let him teach it, while those who "hate" history teach something that they do not hate? Just here is one of the great excellencies of the rotary system — the subjects that require special ability, special preparation, and special presentation are in charge of teachers who have only one subject to teach. Under this scheme these subjects receive the time and the attention too frequently denied them in the ordinary school.



The Library Classroom and Reference Room

Here is a room in which nothing but Art is taught; another devoted exclusively to Music; still another which is the special preserve of Nature Study. What teacher in the traditional type of school has not found numerous excuses to neglect these

difficult subjects, to crowd them out with extra work in Arithmetic or Spelling? In the rotary school these subjects are safe from assault and battery. They are taught and well taught by teachers who would rather teach them than anything else.

Supplementary Reading is in many schools left out in the cold. In the rotary school this cannot happen because this subject has a special room, near the school library, a special time, and a special teacher. So it is with all the other subjects already mentioned.

What of the "home rooms "and the "home teachers"? Here, for example, is a teacher who has in her charge from 9 a.m. to 10.30 a.m. a Senior Third Class of the "A" School. During that hour and a half she teaches to this class, say, Arithmetic, Grammar, and Spelling; at 10.30 a.m. these pupils leave her and the Senior Third Class of the "B" School comes in to be taught, between 10.30 a.m. and noon, the same three lessons that were taught to the previous class. This means, then, that the home teacher has during the forenoon taught three lessons twice each; her preparation of lessons has been cut in half and her work has been concentrated. Each of the two classes has had three "special" lessons and three "home" lessons. In the afternoon the same process is repeated with the same classes but with different lessons.

Victoria Public School, Windsor

The Victoria Public School is Windsor's second rotary school. Both schools are in construction and in equipment of the very best type. They lack nothing that public schools in other cities possess, but they have much more. In both schools teachers and pupils radiate the impression that they enjoy their work, that they realize they are taking part in an experiment in education, and that visitors are very welcome. All appear to be alert, cheerful, and industrious. And it is the unanimous verdict that the traditional subjects of the curriculum do not suffer in the least.

Inspector Bensor finds several important benefits resulting from the

rotary arrangement: (1) The special talent of each teacher is utilized to the best advantage. (2) Each subject receives its proper share of time. (3) The tedious monotony inseparable from the work of the average schoolroom is relieved. (4) The necessary equipment for Geography, for History, and for similar subjects is assembled in one room and does not require to be moved around. (5) Every part of the building is in use for every minute of the day. (6) The building accommodates one-third more pupils than it could under the traditional scheme. (7) The cost of education per pupil per year is about $5.00 lower than in a similar school of the ordinary type.

During the past two decades the elementary school curriculum of Ontario has been greatly enriched with new subjects and new material but there has been very little change in the system of organization and administration. Is it not possible that a change in organization should have accompanied the change in the content of the curriculum? Perhaps it is true that many educationists are inclined to be conservative, to view innovations with distrust and even with ridicule. But is not the Windsor experiment worth a good deal of thoughtful consideration? It may furnish a solution for some existing difficulties. It does indeed seem to be an unqualified success in Windsor.

Recent Magazine Articles and Reports on Education

Direct Method of Teaching English Composition to the Younger Children, by Hilary Human, M.A. Part IV. Shows how to use ordinary class-room furniture to help children to describe the position of objects in their environment without pointing with their fingers. An excellent article. *The Teachers' World, London, England. April 5, 1922.*

Three Lessons on Bird Protection. (1) The value of birds to man. (2) How birds are protected. (3) How children can assist. Published by *The Dominion Parks Branch, Department of the Interior, Ottawa.*

The Dalton Plan for Primary Schools. (I) By John Eades, Headmaster of Kirkstall Road School, Leeds. The author has experimented with the Dalton Plan and believes it has come to stay. *The Teachers' World, London, England, April 2, 1922.*

Recent Developments in Educational Practice, by John Adams, M.A., LL.D., Professor of Education, University of London. (I) The Knell of Class Teaching; a criticism of the Dalton Plan; its relation to Montessorianism. (II) The Place of Intelligence Tests in Actual School Practice. *The Educational Times, February* and *March, 1922.*

Educational Determinism; or Democracy and the I.Q., by William C. Bagley. *School and Society, April 8, 1922.*

The Reorganization of Mathematics in Secondary Education, a summary of the report by the national committee on mathematical requirements. *Bulletin 1921, No. 32. Bureau of Education, Washington,* D.C.

School Consolidation and Rural Life. This Rural School Leaflet No. 1, shows particularly how Consolidated Schools improve attendance and prevent elimination of pupils. *U.S. Bureau of Education, Washington, D.C., February, 1922.*

Notes and News

Ontario

At the recent annual meeting of the Ontario Education Association the following officers were elected:

General Association—President, J. G. Elliott, Kingston; Secretary, R. W. Doan, Toronto; Treasurer, Robert M. Speirs.

Officers were elected in the various sections as follows:

Trustees—President, R. J. McKessock, Hampton; Vice-President, A. T. Howe; Secretary-Treasurer, Rev. W. M. Morris, Toronto; Directors, D. B. McPherson, James Douglas, Hampworth; Mrs. W. E. Groves, Toronto; J. E. Harrison, Rev. W. Lowery, Franktown; W. J. Goodfellow, Stroud; H. S. Weaver, Owen Sound; John Sharpe, Haileybury; Dr. Morrow, Maxwell; and G. E. Wright, Sudbury. Representatives from the Section on the Board of Directors of the O.E.A.: Judge J. H. Scott, Perth; E. H. Wickware, Smith's Falls; R. J. McKessock, Hampton; W. M. Morris, Toronto; W. J. Goodfellow, Stroud; A. B. Carscadden, Tamworth; S. Smythe, Kingston; F. B. Edmunds, Toronto; and J. Bell, Toronto.

Rural Trustees—President, W. J. Goodfellow, Stroud; Secretary, Treasurer, E. Smythe, Kingston.

Urban Trustees—President, E. E. C. Kilmer, Brantford; Secretary-Treasurer, E. F. White, St. Mary's.

Secondary School Trustees—President, F. B. Edmunds, Toronto; Secretary-Treasurer, A. B. Carscadden, Tamworth.

School Attendance Officers—President, A. T. Howe; Secretary-Treasurer, George Rush, Humber Bay.

Technical and Manual Arts Section—Honourary President, A. F. Newlands, Ottawa; President, H. J. Baker, Toronto; Secretary-Treasurer, J. W. Chester, Toronto; Executive, Miss E. Ferguson, Toronto; J. C. Coles, Brantford; Mr. Hagerman, Peterborough.

Commercial Section—President, C. M. Trace, Woodstock; Vice-President, Miss A. Johnston, Ottawa; Secretary-Treasurer, Miss M. M.

Elliott, Peterborough; Council, D. M. Walker, Weston; R. S. Simpson, Ottawa; and J. A. Ramsay, Toronto.

Classics Section—Honorary President, John Henderson; President, J. H. Mills, Toronto; Vice-President, R. O. Joliffe, Kingston; Secretary, Treasurer, J. S. Bennett, Toronto; Council, H. G. Hooper, J. H. Hardy, J. G. Althouse, H. W. Bryan, Miss Foreman and Miss Stathers.

English and History—President, W. E. Hanna, B.A.; Vice-President, Miss Muriel J. W. Wallace, B.A.; Sec.-Treas., Miss Frances A. Robinson, M.A.; Councillor, Miss Kate Stewart, B.A.

Natural Science Section—Honorary President, Sir Frederick Stupart; President, E. Pugsley, Kitchener; Vice-President, T. H. Follick, Port Perry; Secretary, L. H. Graham, Toronto.

Training Section—President, Adrian Macdonald; Secretary-Treasurer, William Prendergast; Council, E. Seaton and S. J. Stubbs.

Music Section—President, E. W. G. Quantz, London; Secretary, Duncan McKenzie, Toronto.

School Health—Officers of the School Health and Physical Education Section are: Hon. President, Dr. O. J. C. Withrow; President, W. F. Kirk; Vice-President, Miss Ella Jamieson; Secretary-Treasurer, Miss F. E. Emory; Section Chairmen: Medical, Dr. Davey; Psychiatric, Dr. Eric Clarke; Dental, Dr. E. A. Grant; Nurses, Miss Alice Sinclair; and Physical Education, W. R. Howard, B.A.

High School Principals Section—President, Hugh Bryan, M.A., Renfrew; Secretary-Treasurer, Geo. H. Reed, M.A., North Toronto; Councillors: P. C. MacLaurin, Belleville; W. H. Mooney, London; J. G. Althouse, Oshawa.

College and Secondary School Department—President, Prof. J. F. MacDonald, M.A., Queen's University, Kingston; Vice-President, W. W. Nicol, B.A., Technical School, Ottawa; Secretary, John D. Morrow, B.A., Davenport H.S., Toronto.

The following officers of the Federation of Women Teachers' Associations of Ontario were elected: President, Miss H. S. Arbuthnot, Toronto; Vice-President, Miss Pentland, Ottawa; Secretary-Treasurer, Miss Bertha Adkins, St. Thomas; Executive, Misses Alison Sutherland, Ottawa; C. J. Winter, Pembroke; L. Leduc, Plantaganet; H. S. Roberts, Hamilton; M. E. Livingston, Barrie; E. C. Armstrong, Orillia; Jessie Ball, Woodstock; Jean Murray, Exeter; Emma Knott, London; A. J. McLennan, Fort William; E. C. Crummer, Sault Ste. Marie; and Miss Dougan, Port Arthur.

A party of 700 teachers from Toronto, in charge of Dr. James L. Hughes, ex-inspector of Toronto schools, visited Washington, Philadelphia and New York during the Easter Holidays.

Longmans, Green & Company, publishers, London and New York, have opened a Canadian branch at 210 Victoria Street, Toronto, under the management of Mr. T. F. Pike. Mr. R. S. Melvin is in charge of the Educational Department. Longmans, Green & Company are the oldest publishing house in existence, having been established in 1724. It is a remarkable fact that the sixth generation of the Longman family is still in the business. This is a noteworthy addition to the number of long-established firms of British publishers now represented by branches in Canada.

From the Ontario Public School Men Teachers' Federation

H. A. HALBERT, B.A., SECRETARY

The second annual meeting of the Ontario Men Teachers' Federation was held Wednesday, April 19th, during the meeting of the O.E.A., at the University of Toronto. There was a large and enthusiastic attendance.

The main points stressed were better organization and a larger fee. Following the discussion the annual fee was increased to five dollars.

A very important additional clause was added to the constitution on motion of Mr. W. J. Neale, Ottawa, namely, "That it be considered a violation of the code of honour for a member of this Federation to fail to fulfil an oral or written acceptance of a position unless able to give a statutory term of notice.

The following officers were elected: President, Capt. A. Firth, Orangeville; Vice-President, R. F. Downey, B.A., B.Paed., Peterborough; Secretary-Treasurer, H. A. Halbert, B.A., 308 Durie Ave., Toronto.

District Organizers—1. W. J. Neale, Ottawa; 2. K. Wightman, Peterborough; 3. Ed. Shear, Allandale; 4. L. J. Colling, Hamilton; 5. W. E. Foster, Brantford; 6. Geo. Slaughter, Stratford; 7. E. A. Ruttle, Dundalk; 8. T. I. Davis, Toronto; 9. J. R. Pickering, New Liskeard; 10. W. J. Fenton, Fort William.

Quebec

Miss Lea Tanner, Lecturer in French, Macdonald College, has been appointed Supervisor of French for the Protestant schools in the Province of Quebec. Miss Tanner, who is a graduate of Macdonald College in 1910, taught for three years at Stanstead College and then became an officer of the Department of Public Instruction, Quebec, where she remained for six years, leaving in 1919 to accept her present position as Lecturer in French in the School for Teachers. Miss Tanner has also

made periodic inspections of the high schools in the province during the past three years, and has done this work so well that a permanent appointment has now been offered to her. Miss Tanner is a good example of a teacher who is equally fluent in both languages.

Mr. A. E. Rivard, principal of Waterloo Academy for the last three years, has accepted the principalship of Longueuil High School.

Mr. John Findlay has been appointed principal of Hudson Consolidated School.

Mr. W. H. Brady, B.A., principal of St. Francis High School, Richmond, has resigned to accept the principalship of the High School at St. Johns, Que., where the school board has decided to erect a new building and replace the school on the list of high schools in the province.

Miss Marjorie J. Ashe, B.A., principal of Danville High School, has resigned to accept a position as Latin Specialist in Strathcona Academy, Outremont.

Mr. J. M. MacKenzie, M.A., principal of Belmont Street School, Montreal, has been appointed principal of the Commercial High School, Montreal, formerly known as the Commercial and Technical High School.

The School Commissioners of Cowansville have decided to erect a new school building ready for September, 1922.

Mr. R. A. Kennedy, B.A., formerly principal of the Lasalle Road Model School, has been appointed principal of the high school at Coaticook.

New Carlisle Academy has received a special grant from the Government to enable it to obtain a competent principal and to maintain high school standing on the Gaspé Coast. The Presbyterian Church is building a hostel for girls, and the Anglican Church is contemplating a hostel for boys at this centre. Mr. J. H. McOuat, B.S.A., has been offered the position of principal.

Miss Fowlie, teacher in Macdonald High School, has resigned her position owing to ill health; Miss England, teacher in the high school, has also resigned her position in order to be married; and Miss R. Cunningham, Macdonald High School, has resigned her position in order to take up household science at Macdonald College. The Misses Wyman, Higginson and Miller have received appointments in Macdonald High School.

New Brunswick

The New Brunswick Legislature at its recent session enacted a new Teachers' Pension law providing for more generous pensions to retiring teachers. By its provisions a male teacher of 60 years and a female teacher of 55 years of age may, upon retiring from active service, receive

a pension equal to one-half the salary received for the last five years of service in the public schools, up to the time of the passage of this Act. No pension under this Act shall, however, be less than $250 and none more than $800 per annum. The Act also provides for disability to teachers who are totally disabled. They may receive as a disability a sum equal to as many thirty-fifths of the pension to which they would be entitled had they taught thirty-five years, as corresponds to the number of years taught by such teachers. That is, a teacher who has taught twenty-five years may receive as a disability twenty-five thirty-fifths of the pension to which he or she would be entitled had the thirty-five years of service been given.

Five per cent. will be deducted from the government grants of all teachers to provide a Teachers' Pension Fund which will be supplemented by a like amount from the consolidated revenue of the province, annually. This Act may apply to all persons holding teachers' licenses and who are exclusively engaged in work connected with the public schools, such as school inspectors, instructors in the Normal School, etc., if they desire to avail themselves of its provisions, and pay the required fees.

Milltown's new school building is nearing completion. It is 130 feet long and 69 feet wide, and contains nine classrooms and a hall.

Examinations for teachers' licenses will begin at Fredericton, St. John and Chatham on Tuesday the 13th of June.

Encoenia at the University of New Brunswick will be held on the 18th of May.

J. W. Burns, M.Sc., who has been on the staff of the Fredericton High School for the last year will sever his connection with the Fredericton Board at the end of the present school year in June.

Calixte S. Savoie, who has been principal of the Sussex High School for the last two years, has resigned, his resignation to take effect the 30th of June. He has been appointed principal of the Grammar School at Edmundston, and will enter upon his duties there at the beginning of the next school year in September.

Norman S. Fraser, B.A., has been appointed to the principalship of the Sussex High School for the next year. Mr. Fraser was formerly principal of this school.

The Sussex School Board are taking the necessary steps to replace their fine school building which was recently destroyed by fire.

Teacher: "Michael, you are behind in your geography lessons."

Michael: "Yes, I want to wait till things in the world get more settled."

Book Reviews

The Province of Quebec, by J. C. Sutherland, B.A. 157 pages. Montreal, Renouf Publishing Co. Price $1.25.

In reviewing in recent numbers of THE SCHOOL several publications on the geography of States of the Union it has been stated that an extended account of the Geography of the provinces of Canada is greatly needed by teachers in order that they may obtain exact information for their work. While Ontario still lacks such a book, we are glad to be able to report that Quebec, though she has only a few hundred thousand English-speaking people, has at last produced such a book in English. We wish to congratulate the teachers of Quebec in having such an excellent book in their province as the one under review. It deals with the surface and the geological formations in great detail; then the River St. Lawrence, the productions, government, and education are all in turn treated in a very interesting manner. As the author is a careful geographer, the facts can be depended on. To all teachers in Quebec it should be indispensible, and is well worth reading by the teachers of the other provinces. G. A. C.

Philips' Comparative Wall Atlas of Commercial Development—North America. 42″ x 34″. Mounted on cloth, dissected to fold with metal eyelets for hanging. 8/6.

Messrs. Philip deserve great credit for the excellent maps for schools which they are producing. We had occasion to recommend their wall atlas of the world some time ago. Now we can speak just as highly of a new set of eight maps showing the commercial development of the continents, the British Isles and the World. The map of North America has different colours to represent the different kinds of industrial development, and the chief minerals are clearly represented by characteristic markings. The transportation routes by land and water are graphically shown, and the relative importance of the different ports, with their chief exports and imports, are all indicated. This set of eight maps, which can be purchased in a case for about fifteen dollars, will be a great addition to the teaching equipment of any school which is fortunate enough to be able to obtain it. G. A. C.

Philips' New School Atlas of Comparative Geography. Published by Messrs. Geo. Philip & Son, Ltd. Price 3/6. This atlas shows what a fine collection of maps can be put together for a moderate sum. Most of the maps are physical and the world is covered very evenly. It is probably the most useful in size and price of any of the pupils' atlases yet issued. It can be highly recommended. G. A. C.

The Organisation and Curricula of Schools, by W. G. Sleight. New York, Longmans, 1920. Pp. VIII+264. Price $2.00 net. Drs. Sleight, Nunn & Ballard form a trio of Englishman who are doing a great work for education in England. Dr. Sleight's earlier work "Educational Values and Methods" received a warm welcome mainly because it was so thoughtful and readable. In many respects this new work is superior. While the discussion of fundamental values is neither so lengthy nor profound, it keeps its feet on solider ground by means of its very practical time-tables and curricula. The reviewer knows of no single work in which the detailed working of all kinds of English schools can be so readily seen. From the dozens of typical time-tables there given, not only may the subjects be seen, but also the time allotted to each and the manner in which the English principal dovetails one subject into another. The book is also a storehouse of information concerning the organization of English education—a subject that is apt to be very puzzling to the foreign student of education. Altogether the work is one that can be heartily recommended. P. S.

Canadian Constitutional Studies, by Right Hon. Sir Robert L. Borden. 163 pages. Price $1.00 postpaid. University of Toronto Press, 1922. This volume consists of the Marfleet Lectures delivered in the University of Toronto in October, 1921. The first lecture deals with the period from 1763 to Confederation, the second with the period from Confederation to the World War, while the last discusses constitutional developments during the war and afterwards. While these lectures were intended for all classes interested in Canadian history and government, they have a peculiar interest for teachers of Canadian history. Unfortunately, perhaps, the development of the Canadian Constitution looms very large even in school histories of the British period. The class treatment of the subject must be elementary, but the teacher needs to have a thorough understanding of the subject. In gaining such an understanding this volume will be a great assistance. This will be particularly the case in connection with the period 1840-50, the years between Confederation and the war, and the years since 1914. Sir Robert treats clearly the development of responsible government under Sydenham, Metcalf and Elgin; he shows how Canadian autonomy developed after 1867, and finally he discusses Canada's present relation to the Empire and the probable line of future constitutional development. One of the most interesting parts of Sir Robert's discussion of recent developments has to do with the Imperial Conference and the Imperial War Cabinet in both of which he himself played an important part. G. M. J.

The Piers Plowman Social and Economic Histories. Books I, by J. J. Bell, M.A.; Book VI, by E. H. Spaulding, M.A. Cloth, 244 and 222

pages, illustrated. Price 3*s*. each. London, George Philip & Son, Ltd. 1922. These are the two latest volumes of a very interesting series. Authors and publishers are preparing material on the social and economic history of England which not only supplements the political history of the ordinary text-book, but gives the high school pupil a thoroughly interesting view of social and economic conditions at the various periods. Volume I deals with prehistoric, Roman and Saxon times, and shows as fully as a small volume can how the people lived and worked and fought, what their towns and villages were like, and how great institutions like the church developed. Volume VI treats the period 1760-1830, a period when both social and economic questions were doubly acute. The old social life of the period before the industrial revolution, the industrial revolution itself, the effects of the Napoleonic wars, the results of the changes in industry, are all dealt with in a way that will appeal to a high school pupil. Both books are profusely illustrated. Both are very useful; Vol. VI is specially helpful for Pass Matriculation work in Ontario. G. M. J.

Guide to Poisonous Plants, by R. B. Thomson, B.A., and H. B. Sifton, M.A. Cloth, 169 pages. Published by University of Toronto Press, Toronto. Price $2.50. The death in Eastern Ontario of seven members of one family by eating the roots of the water hemlock has forcibly drawn people's attention to the fact that amongst our common plants there are a number that are dangerous to man and beast; and that it is of value for all to be able to distinguish the poisonous and the harmless. The book under review is a very useful handbook for such a purpose and can be used readily in the identification of poisonous plants of all the groups. Usually an excellent photographic reproduction of the whole plant, as well as of the more important parts, accompanies the description. For the high schools in which agriculture is taught it is particularly useful, as many farm animals are poisoned by eating such plants, and the book treats very thoroughly the relation of these fodder plants to farm animals. The letter-press is excellent and the limp-cloth binding with rounded corners presents a fine appearance. G. A. C.

A History of Europe: Our Own Times, by James Harvey Robinson and Charles A. Beard. Cloth, x+616+xxi pages. Boston, Ginn & Co. 1921. This volume is a revision of "*The Development of Modern Europe*" by the same authors, which was used by many Ontario teachers as supplementary to the text-book for Upper School history. This book

begins with the age of Louis XIV, and treats all important phases of modern European history down to the formation of the League of Nations. Emphasis is placed on the more recent periods. While 192 pages are devoted to the period from 1660 to 1815, 275 pages are given to nineteenth century, and 148 pages to the twenty years of the present century. As is to be expected, the causes, events and results of the Great War occupy much space, eighty-three pages. The account of the Great War is written quite frankly from the point of view of the American who favoured the participation of the United States in the war on the side of the allies. It will meet with the approval of Canadian teachers. This book is enough fuller than "*Mediaeval and Modern Times*", by Robinson, that it will fulfil very much better the requirements of the Upper School course, now that the period for study is to be 1789-1920. It is unnecessary to speak of the style of the authors since Canadian teachers know Robinson's books very well. The volume is well illustrated. Besides many black and white pictures, diagrams and maps, there are eight full-page coloured plates and eighteen coloured maps. G. M. J.

Public School Text-Books in Ontario, by E. T. White, London Normal School. Cloth, 114 pages. The Chas. Chapman Co., London. This book contains a lot of valuable and interesting information concerning the texts which have been used in Ontario schools during the last century. The author has given a great deal of time to the collecting of data on this subject. The story of the evolution of the modern text-book is well told. His criticism of the early texts, the examples which he gives to show the matter contained in them, and the history of the movement for free text-books in Canada and the United States make interesting reading. J. T. C.

A Short History of English Literature, by Archibald G. Strong, M.A., Litt.D. Cloth, 404 pages. Price $2.75. Toronto, Oxford Univ. Press. 1921. This history traces the growth of our Literature from Anglo-Saxon times to the close of the Victorian Period. The book is valuable as a source of information concerning biographical dates, chronological lists and abstracts of important works. Few biographical details are included except where they have an important bearing on an author's work. The historian has discussed what is significant in the thought and art of the more important writers. His closely-knit style has made possible the inclusion of numerous quotations which enhance the value and interest of the work. K. N. S.

The Modern Teacher, edited by A. Watson Bain, M.A. Cloth, 272 pages. Price 10/6. London, Methuen & Co., 1921. This volume consists of a series of essays by leading English teachers. Each of them deals with one subject of the curriculum, and tries to expound within the limits of a comparatively brief article—twenty or thirty pages—the latest ideas with regard to the purpose of teaching the subject, the proper curriculum, and the best methods of instruction. The subjects treated are: Literature, Composition, Modern Languages, Classics, Mathematics, Science, Geography, History, Citizenship, Religion and Morals. Naturally the quality of the essays varies, but as a whole they present a very interesting survey of present day theory and practice. The reviewer is not qualified to speak of some of the essays, but he has found the chapters dealing with English, history and citizenship both interesting and stimulating. Without wishing to institute comparisons, he would mention particularly the essay on the teaching of literature by E. A. Greening Lamborn. It is a reiteration of his well-known view that the chief end of education is preparation for the right use of leisure, and that the first and greatest means of preparing pupils for this is to lead them to an understanding and enjoyment of good literature. G. M. J.

The New Age History Readers; Vols. V and VI, cloth, 320 and 352 pages, illustrated. Price 95c. and $1.00. Toronto, Thomas Nelson & Sons, Ltd. These two volumes bring the New Age series down to the end of the war in 1918. Like the early volumes, V and VI are written in a very interesting style that appeals at once to children. In addition, the beautiful illustrations, all reproductions of famous historical pictures, help still further to create interest and to stir the imagination of pupils. Volume V takes the story of world history from the renaissance to 1688; vol. VI continues the story to 1918. These readers should be in every Public School and every High School library. G. M. J.

Teaching the New Geography by W. W. Atwood and H. G. Thomas. 203 pages. Published by Ginn and Company. Atwood and Frye's two text-books in geography are undoubtedly the best Public School geographies yet published in the United States. Teaching the New Geography is a companion volume to these books, which forms a guide to the teacher. It suggests many kinds of work that can be done with the maps and pictures in the text. G. A. C.

Book Notices

(*Notice in this section does not preclude review elsewhere*)

Seven Peas in the Pod, by Margery Bailey. Cloth, 200 pages, illustrated. Price 6s. net. London, George G. Harrap & Co., Ltd. An attractive book of fairy stories.

A Short Course in Commercial Arithmetic, by A. Risdon Palmer, B.A. 187 pages. Price 2s. 6d. G. Bell & Sons, Ltd., London. This is an elementary text designed for the use of students in Commercial Schools.

A Book of Birds, by F. Schuyler Matthews. Cloth, 323 pages, illustrated in colour. Price $3.00. New York, G. P. Putnam's Sons.

Old English Nursery Songs, music arranged by Horace Mansion, pictured by Anne Anderson. London, George G. Harrap & Co. 8/6 net. Thirty-seven old favourites charmingly illustrated in colours; a book to delight the heart of any child. It has some old Christmas carols, too. A useful book for the kindergarten teacher.

European History Chronologically Arranged, 492-1920, by Arthur Hassall, M.A. Macmillan & Co $4.00 net. A very useful book of reference for the teacher or the high school library. It contains also genealogies and lists of sovereigns.

Hexapod Stories. By Edith Patch. 179 pages. (2) *Bird Stories*, by Edith Patch. 211 pages. Both published by Atlantic Monthly Press, Boston. These little volumes are nature studies on insects and birds written for children in a very interesting manner. They differ from many similar books in depicting only facts which can be observed even by a child. They would make good supplementary reading for second and third form pupils in the elementary schools and would make excellent books for the public school library. They have numerous excellent illustrations. G. A. C.

A Text-Book of Nursing, by Amy E. Pope. Cloth, 360 pages, illustrated. New York. G. P. Putnam's Sons.

La Douce France, by Réné Bazin, with a preface by the author for British schools. Abridged and edited by Louis Latour. Cloth, 136 pages. Price 3/6. London, Methuen & Co., Ltd., 1922.

A Book of Verse, Chosen for Students at Home and Abroad, by Sir Henry Newbolt. Limp cloth, 110 pages. Price 2/-. London, G. Bell & Sons, Ltd. Selections from sixty authors, eighteen of whom are living.

Observation and Culture Tests in Art. for Senior Elementary and Junior Intermediate. Two sets of 35 charts in folders. Price 3 shillings for each set. London, Evans Bros. Each set consists of a number of exercises for distribution in the class, requiring (1) the completion of an unfinished drawing. (2) the criticism and correction of a poor drawing; (3) the drawing from memory of a small group of objects to tell a story. The expressed aim of the collection is to inculcate in the pupil the habit of careful observation, to enable him to visualize his ideas, and to develop his latent powers of self-expression.

The Unseen Side of Child Life, by Elizabeth Harrison. Cloth, 179 pages. Price $1.40. Toronto, The Macmillan Co. of Canada, 1922. This book deals with will-power or self-activity. Its purpose is to show how much may be done to give to each young life some of the joy of the inner growth of will power.

Graded Bible Stories, two vols., by Prof. W. J. Mutch. Cloth, 161 and 177 pages. Price $1.25 net each. New York, George H. Doran Co., 1922. These are the first two volumes of a series of four designed to adapt Bible stories to the needs of the various ages of childhood. Book I is intended for Grades I and II, for children from five to seven years of age. Book II is for Grades II and IV, for children of seven to ten. Besides the stories there are full suggestions concerning their use in school or home, and concerning the best illustrative material. Both parents and pupils will find the books useful.

Il Risorgimento, edited, with notes and vocabulary, by John Van Horne. Cloth, 168 pages. Price $1.40. University of Chicago Press, 1922. This volume contains six selections illustrating the most interesting phases of the great Italian struggle for freedom and unity in the nineteenth century. Mazzini, Rovetta, Garabaldi, Covour, Mercantini and Carducci are the authors of the extracts quoted.

Art and Education in Wood Turning, by W. H. Klenke. Cloth, 110 pages. Price $1.40. The Manual Arts Press. This is a good book from three standpoints. The problems are good, the methods are briefly but clearly presented and, above all, the designs are beautiful. It would be difficult to find a book of its size more suggestive of artistic problems or more helpful in the method of presenting them. Any student of wood-turning would be pleased to have a copy of the book.

An Elementary Manual of Physiology, by Russell Burton-Opitz, Ph.D. Cloth, 411 pages, illustrated. Price $2.75. Philadelphia, W. B. Saunders Co.; Toronto, The J. F. Hartz Co., Ltd., 1922. This volume is an up-to-date exposition of the principles of human physiology such as a public school teacher should read in order to teach the hygiene of the Public School course intelligently. It has 147 excellent illustrations.

A Commercial Geography of the British Empire, by Lionel W. Lyde, M.A., F.R.G.S. Cloth, 146 pages. Price 3/6. London, Methuen & Co., Ltd., 1922. Professor Lyde's name on a text-book in geography is a guarantee that it is accurate and thoughtful. This brief text gives few details but discusses the general principles of commerce in general and of the different parts of the British Empire in particular. An excellent book for the teacher of commercial geography.

The Growing Girl, Her Development and Training, by Evelyn Saywell, L.R.C.P. Paper, 38 pages. Price 1*s*. London, Methuen & Co., Ltd., 1922.

The Bible for School and Home, by Rev. J. Patterson Smyth. Cloth, 196 pages. Price $1.25. New York, George H. Doran Co., 1922. This is the first volume of a series of five plain and simple commentaries on the Bible for teachers, prepared expressly for use in Church Schools, Sunday Schools, and the home. This volume is on Genesis; the succeeding ones will be entitled "Moses and the Exodus", "Joshua and the Judges", "The Prophets and Kings", and "The Life of Our Lord". The material in Genesis is arranged in twenty-four lessons.

Junior High School English, Book I, by Briggs, McKinney and Skeffington. Cloth, 399 pages, illustrated. Boston, Ginn & Co. This is a composition book for Grade VII which combines many of the features much discussed in recent years, such as emphasis on good citizenship, provision for optional individual and group work, the use of problems to create interest and co-ordination of composition with other school subjects and out-of-school needs. Teachers would do well to examine this book.