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The School

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Vol. VI

Toronto, September, 1917

No. 1

| | PAGE |
|---|------|
| Editorial Notes; <i>The Late Principal Groves; A New Feature; Elimination of Waste; The Teaching of History; Hints for the Library</i> - - - - - | 1 |
| Interest and Annuities - - - - <i>Professor J. T. Crawford</i> | 5 |
| In the Classroom - - - - <i>Frederick H. Spinney</i> | 8 |
| Picture Study - - - - - <i>H. E. Bicknell</i> | 10 |
| Primary Department: | |
| Form I Geography: An Outline - - - <i>F. A. Jones</i> | 15 |
| Story Telling—Why and Where <i>Annie J. Workman</i> | 17 |
| The Unification of the Kindergarten and Primary School - - - - <i>Ethel M. Hall</i> | 20 |
| Methods of Teaching Reading - - - <i>G. W. Lewis</i> | 23 |
| Teaching Material in Government Publications <i>John Blue</i> | 27 |
| The Proposed Pension Scheme for Teachers in Alberta <i>S. J. Dymond</i> | 32 |
| Making the Rural School a Community Centre <i>H. D. Ainlay</i> | 34 |
| The Grade X Examinations in Art - - - - | 36 |
| Nature Study for September - <i>Professor G. A. Cornish</i> | 39 |
| The June Competition in Art - - - - - | 42 |
| The New Civics - - - - - <i>G. M. Jones</i> | 44 |
| Diary of the War - - - - - | 47 |
| The Meaning of Some Common or Popular Plant-Names <i>A. E. Attwood</i> | 50 |
| Teaching English Grammar to Foreign Children <i>Paul F. Trout</i> | 54 |
| Spelling - - - - - <i>John B. Brennan</i> | 56 |
| Co-operation - - - - - <i>C. B. Edwards</i> | 59 |
| The Teacher and the Community - <i>Dorothy Campbell</i> | 64 |
| Notes and News - - - - - | 67 |
| Hints for the Library - - - - - 4, 31, 33, 43, 55, 66, 78 | |

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Ontario Department of Education

Teaching Days for 1917

High, Continuation, Public and Separate Schools have the following number of teaching days in 1917 :

| | | | |
|---------------|-------|---------------|-------|
| January..... | 21 | July..... | |
| February..... | 20 | August..... | |
| March..... | 22 | Sept..... | 19 |
| April..... | 15 | October..... | 23 |
| May..... | 22 | November..... | 22 |
| June..... | 20 | December..... | 15 |
| | <hr/> | | <hr/> |
| | 120 | | 79 |
| | | Total..... | 199 |

DATES OF OPENING AND CLOSING

| | | | |
|-------------|---------------|------------|---------------|
| Open..... | 3rd January | Close..... | 5th April |
| Reopen..... | 16th April | Close..... | 29th June |
| Reopen..... | 4th September | Close..... | 21st December |

NOTE—Christmas and New Year's holidays (22nd December, 1917, to 2nd January, 1918, inclusive), Easter holidays (6th April to 15th April inclusive), Midsummer holidays [from 30th June to 3rd September, inclusive], all Saturdays and Local Municipal Holidays, Dominion or Provincial Public Fast or Thanksgiving Days, Labour Day [1st Monday (3rd) of Sept.], Victoria Day, the anniversary of Queen Victoria's Birthday (Thursday, 24th May), and the King's Birthday (Monday, 4th June), (3rd June, Sunday), are holidays in the High, Continuation, Public and Separate Schools, and no other days can be deducted from the proper divisor except the days on which the Teachers' Institute is held. The above-named holidays are taken into account in this statement, so far as they apply to 1917, except any Public Fast or Thanksgiving Day, or Local Municipal holiday. Neither Arbor Day nor Empire Day is a holiday.

Ontario Department of Education.

The Minister of Education directs attention to the fact that, when some years ago the Ontario Teachers' School Manuals were first introduced, Boards of School Trustees were furnished with a copy of each, bound in paper, free of charge, to be placed in the School Library. For the same purpose, a copy of the "Golden Rule Books' Manual," was supplied free in September, 1915, to all Public Schools, and the Manual entitled "Topics and Sub-Topics," has also been supplied free to schools where there are Fifth Forms.

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

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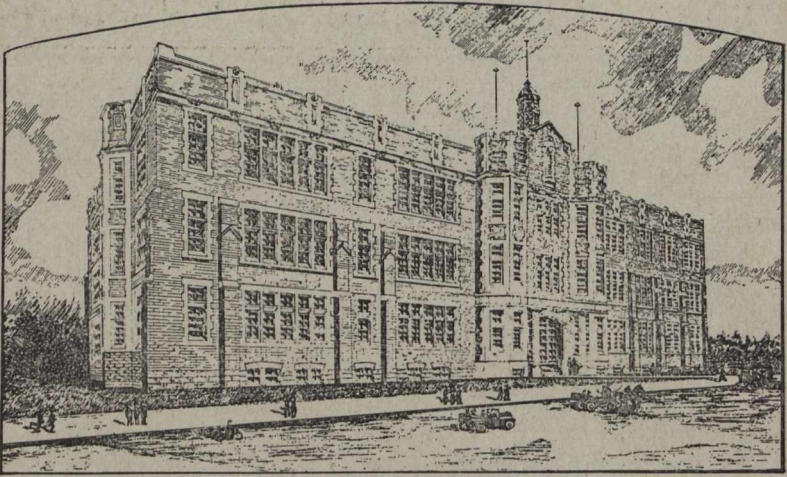
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The School

"Recti cultus pectora roborant"

Editorial Notes

The Late Principal Groves

In the recent death of Mr. W. E. Groves, for many years Principal of Ryerson Public School, Toronto, the teaching profession in Canada has lost one of its prominent members. At the institution of the Faculty of Education as a part of the University of Toronto in 1907, Mr. Groves was the first man chosen from among the Public School teachers of the city to lecture on the teaching of Public School subjects, and with such acceptance did he perform this function that even after this arrangement for choosing lecturers was superseded by the present one, he was induced by special request of the staff to deliver a short course of lectures every year for the benefit of beginners in teaching.

The school of which he was the head continued to be used as the one among the city Public Schools selected for demonstration and practice purposes, thus forming an integral part of the system of training adopted by the Faculty of Education. Those in the Faculty who had the most to do with practice teaching understood best the value of his work, and his rare qualities as colleague and critic. He had the gift of whole-heartedness. Once convinced that any plan suggested was of real benefit to the young teacher-in-training, he would spare no effort in the carrying out of such a plan, at any sacrifice of his own time and energy. But he was discriminating and firm with all, and the slacker found in Mr. Groves no sympathy with his unlaborious futility. His fair-mindedness and balanced judgment gave weight to his opinions, and finality to his decisions in doubtful cases. In this respect his loss to the Faculty will be irreparable.

The two-fold position which he occupied as Principal of a great school and director of practice-teaching in the Faculty of Education was one that demanded peculiar discretion and tact, if the combined role was to be played with fairness to both positions. His unqualified success in this double role indicated a rich endowment of common sense. Most sincerely do the members of the Faculty of Education lament the loss of a colleague whose qualifications admirably fitted him for his unique and difficult position, and whose wholesome and genial personality made it a pleasure to know him and a privilege to work with him.

A New Feature

When THE SCHOOL was established in 1912, its first issue stated the purpose of its founders to conduct a journal Canadian in policy and in sentiment. To quote from the preliminary announcement: "THE SCHOOL will justify its existence and will serve a good purpose if it helps to bring together on common ground teachers in the different parts of the Dominion through an interchange of views that will be beneficial to all concerned". How far this aim has been realized its readers are in a position to know. A large and increasing subscription list, distributed throughout all the Provinces of the Dominion, is an evidence of at least a certain amount of progress.

Though systems of education may differ in different Provinces, education itself is one and the same throughout the Dominion and, for that matter, throughout the world. The various systems are simply different roads to the same goal. And how slightly different, after all, in comparison with the educational problem itself! The war is teaching us the value of co-operation in many departments of activity. The need of greater co-operation in education is becoming more apparent every day.

Another purpose of THE SCHOOL has been to avoid commercialism and to devote itself entirely to education. It has no "interests" to serve, no axe to grind; it has no desire for profits, but only a desire to avoid losses. To furnish to the teachers of Canada at the mere cost of production, a modern, progressive, educational journal has constantly been the aim. One prominent educationist says that in this respect THE SCHOOL is unique on this continent and in this age. Perhaps that is so; perhaps not. In spite of increasing costs of every kind, the subscription price has not been increased, and will not be, until such action is absolutely inevitable.

Because these are the aims of the journal, a suggestion received some months ago from the Alberta Educational Association was very cheerfully accepted. Arrangements have been made to include in these pages material of special interest to Alberta teachers. The A.E.A. has appointed a committee to take charge of the work. Mr. C. Sansom, B.A., of Calgary Normal School is the Provincial Editor and is assisted by Mr. M. H. Long, B.A., Miss E. M. Burnett, and Miss K. Teskey, M.A. Beginning with the September number, 1917, there will be editorial notes from Alberta, special articles dealing with educational movements and problems in that Province, and live news items of interest to teachers.

This is a form of co-operation that will be of benefit not only to the teachers of Alberta but to readers of THE SCHOOL in all Provinces. THE SCHOOL will be larger and better than ever before. Nothing that is now being done will be neglected and much more will be attempted.

Elimination of Waste

A great deal is being written and spoken about the sinfulness of waste. Waste of food, of money, of fuel, of anything needed for winning the war is criminal; worse than that, it is treason to the cause of liberty and of civilization. In the tremendously important campaign for thrift in every department of human activity, teachers can wield an enormous influence. Will you impress on your pupils the great necessity of saving? Will you also, as opportunity offers, impress the same lesson, tactfully, perhaps in the ordinary course of conversation, on the parents and friends of your pupils? There can be no exaggeration of the necessity of avoiding waste.

But, in the schoolroom itself, there is frequently waste of a more precious commodity than paper, pencils, or crayons. Are we using our own and our pupils' time in such a way that every minute counts? Our boys will soon be men; our girls will soon be women. Do we realize, in these warm September and October days, when the clock has a tendency to move slowly and all out-doors invites us, that in a very few years these boys and girls must take their place and do their share in helping the world to recover from the effects of this war? For example, is the seat work or the "busy work" that we assign to our pupils chosen so carefully that the doing of it counts definitely in the child's progress, or is it given simply to keep him quiet while another class is reciting? Are our lessons so well prepared each day that there is no hitch, no hesitancy in presenting new work, no *waste* of time or of labour? In a very real sense, the opening day of this year is New Year's Day for teachers. Can we plan to eliminate waste in all our work, to be alert, to prepare carefully for each day's work, to be *thrifty* in our disposition of our pupils' time?

The Teaching of History

Can we say, without fear of contradiction, that the greatest tonic for any lesson is *interest*? If any subject on the curriculum has suffered for lack of this tonic, surely it is history. History could also make out a good case in court for damages for desertion, for neglect, perhaps even for assault and battery. How many pupils, how many students of your acquaintance will confess to a liking for history? Who of them will say it is his "favourite" subject? And should it not be everybody's pet subject? What can be more full of interest than the story of our own country or the story of the world?

Ask the man on the street what he knows about Alfred the Great. He tells you that is the chap who burnt the cakes. Ask him about Henry the Eighth. He remembers the matrimonial adventures of that much-married individual. Outside of these two our man-on-the-street will

probably remember nothing of his school history unless it be Canute's futile attempt to restrain the waves.

Clearly, we have not had anecdotes enough in our teaching of history; nor have we made sufficient use of pictures. We have had the examination in view, we have forced our pupils to read a text-book, we have given them "notes". We can, if we will—and it does not take more effort than an ordinary man must use to make an ordinary business a success—we can make our history all one living, *vivid* story in which our pupils are intimately acquainted with the men and women of past ages, in which they laugh at them, work with them, triumph with them or help to defeat them. History thus taught is a pleasure, a recreation, to pupils and teacher. There is plenty of story material in various books. The secret is—*learn to tell a story well*. Story-tellers are made not born. Don't be afraid of a joke, use every anecdote, every available picture. Examinations then are no longer a dread; text-books become of minor importance. *Interest* makes everything easy. Try it.

Hints for the Library

"Of the making of books there is no end". The old proverb is as true now as when first written. And from this plentitude of books the school library should benefit. Teachers do better work, pupils study with greater zest, if the information furnished in the text-book can be re-inforced by material accessible in the school library.

But the selection of suitable books is a duty requiring careful thought and expert knowledge. THE SCHOOL endeavours to assist teachers in this special work by supplying brief descriptions and disinterested opinions on recent educational publications. And because purchases for the school library are most frequently made at the end and at the beginning of the school year, the issues of May, June, and September contain, as has no doubt been observed, a very large number of book reviews. In December a list of the best educational books of the year will be published.

Book Reviews

La Salle (True Stories of Great Americans), by Louise S. Hasbrouck. 212 pages. Price 50 cents. The Macmillan Co., Toronto. The teacher of history will appreciate this book as will the student of the subject. It gives in detail the life of La Salle, his explorations, his discoveries. For the Public or High School library it is excellent. Other titles in the series should be examined. It is books of this kind that make history a live subject.

Moni, The Goat Boy, by Johanna Spyri. J. B. Lippincott Company, Philadelphia. An interesting story for second or third book classes.

Interest and Annuities

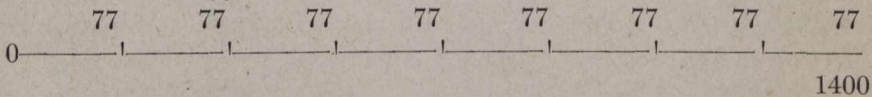
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THE work on interest and annuities which we find in our text-books on senior algebra is very defective because it does not present the subject in such a way that pupils can readily understand it. It is usually too theoretical and there are not enough practical examples to give interest to the subject.

Feeling that other teachers may have found the same difficulty as I have in dealing with this topic, a few suggestions as to method and an exercise containing practical examples are given in the hope that they may be of service to young teachers.

The foundations upon which the theory of the subject depends are (a) compound interest, (b) geometrical progression. I have found that the theory of compound interest requires careful review as many pupils have not mastered the subject in the arithmetic or they have since forgotten it. They should be able to state readily the amount of any sum at interest for a given number of years at a given rate per cent. They should also be able to state the principal which will amount to any given sum.

If sums are due at different times a graphical illustration is very useful in showing exactly when each sum is due. Take the following problem: A mortgage for \$1,400 has 8 years to run and bears interest at $5\frac{1}{2}\%$ payable yearly. What is its present value, if the purchaser wishes to make 7% on his money?



In this diagram 0 represents the present time and each division on the line represents one year. This clearly shows that \$77 is due at the end of each year and in addition the \$1,400 is due at the end of 8 years. The present value of each sum is then taken and the whole is written

as a geometric series thus: $\frac{77}{1.07} + \frac{77}{1.07^2} + \frac{77}{1.07^3} + \dots + \frac{77}{1.07^8} + \frac{1400}{1.07^8}$.

When this series is summed and the result reduced to its simplest form we obtain $1100 + \frac{300}{1.07^8} = 1100 + 300 \times .58201 = 1274.60$.

Thus the present value is \$1274.60. In finding the value of $300 \div 1.07^8$ the pupil may use logarithms or the interest tables in the High School

Arithmetic. In either case an examination should be made as to what part of the result is necessarily correct. The preceding answer was found by using the interest tables and is correct to the nearest cent. If five-figure logarithms are used the result is \$1274.61 and is correct only to the first five significant digits.

I have found that the chief difficulty with High School pupils is that they do not properly understand the business transaction involved in many of the examples. This is usually overcome by having the pupils make a diagram such as is shown in the preceding example. When this is properly done the series representing the amount or the present value is then easily written down.

I usually deal with all the phases of the subject by first using concrete problems and finish with the general theorems. In the following examples the answers given are obtained by using the interest tables. These tables are usually easier to use than the logarithmic tables and since it is possible to obtain more exact results by means of them, it might be well if candidates were allowed to use them at the Departmental examinations.

Examples.

1. Find the amount of \$125 in 10 years at 6% compounded yearly; of \$430 in 8 years at 7% compounded half-yearly. (\$223.86; \$745.62).

2. Find the present value of \$1,000 due in 6 years if money is worth 5% per annum compounded half-yearly. (\$743.56).

3. In what time will \$150 amount to \$330 at 6% compounded yearly? (13.5 yr.)

4. At what rate will \$200 amount to \$296.22 in 9 years, interest compounded yearly? ($4\frac{1}{2}\%$).

5. Prove that the amount of any sum at compound interest for 10 years at $2\frac{1}{2}\%$ is greater than the amount for 5 years at 5%, in each case compounded yearly.

6. A man deposits \$100 in a bank at the beginning of each year. If the bank pays 3% per annum compounded yearly what is the balance in his bank-book when the 20th deposit has been made? (\$2,687).

7. Find the present value of an annuity of \$84 to run 13 years, the rate being 4% per annum compounded yearly. (\$838.80).

8. The executors of an estate have \$20,000 with which they desire to purchase an annuity that shall run 10 years. If money be worth 5% per annum, find the yearly value of the annuity which can be purchased. (\$2,590.10).

9. I hold a mortgage for \$4,000 payable in 6 years and bearing interest at 6% payable yearly. What is the cash value of the mortgage to me if the current rate of interest is 5% per annum? (\$4,203.02).

10. A man aged 54 years, in receipt of a pension of \$100 a year, wishes to commute that for a present payment. If his expectation of life is 17 years and interest is reckoned at 5%, how much should he receive? (\$1,127.40).

11. A school section borrows \$4,500 to build a school house; this sum is to be repaid in 10 equal annual instalments. If money is worth 6% per annum, find the amount of the instalment. (\$611.41).

12. A person who has a capital of \$20,000, for which he received interest at 5%, spends every year \$2,500. Find in how many years he will have all his money spent. (10+).

13. A man pays \$240 yearly for a 15-year endowment policy of \$4,000. If money is worth 6% per annum payable yearly, how much is he paying each year for the life risk? (\$77.88).

14. A man leaves property worth \$750 a year to his wife during her life; after her death it is to go to his son during his life. If the wife's expectancy of life is 12 years, and the son's 34 years, find the present value of the son's annuity, money being worth 6%. (\$4,488).

15. A debenture bearing interest at 6% per annum payable half-yearly has 10 years to run, when it is repayable at a premium of 20%. Find its cash value if money is worth 5% per annum compounded half-yearly. (\$120).

16. A municipality borrows \$40,000 agreeing to pay interest thereon at the rate of $4\frac{1}{2}\%$ per annum. What amount of taxes must the municipality raise each year to pay this interest, and to provide a sinking fund which being invested at 4% will cancel the debt in 30 years? (\$2,513.04).

17. A deposit of \$100 a year is to be made at the end of each year, for a period of 20 years, into a fund to be used at the end of that period to purchase an annuity of \$A a year for 10 years. Derive a formula for A, the interest rate in each case being 3%. $A = 100(1.03^{20} + 1.03^{10})$.

18. A man wishes to provide for his son an annuity of \$700, the first payment to be made 5 years from now and the annuity to continue for 9 payments. If money is worth 4% what should he now pay for this annuity? (\$4,449).

19. A village built a school house costing \$12,000, and raised \$1,720 a year to pay for it. Allowing 6% compound interest, how many whole years will it require to cancel the debt and what will be the balance then due? (9 yr.; \$508.67).

20. A philanthropist makes his will in which he instructs his executors to endow a university with a perpetual scholarship of \$250 per year, the first payment to be made one year after his death. If his expectation of life is 12 years, find the cash value of the bequest if money is worth 5%. (\$2,784.2).

In the Classroom

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EXERCISES LEADING UP TO REDUCING TO LOWEST TERMS.

(NOTE.—The class is divided into three groups, ranging from pupils of lowest rank in Group I. to those of highest rank in Group III.)

GROUP I. went to the board. The teacher dictated the following denominators: $\frac{\quad}{12}$ $\frac{\quad}{15}$ $\frac{\quad}{21}$ $\frac{\quad}{27}$ $\frac{\quad}{36}$ $\frac{\quad}{60}$ $\frac{\quad}{90}$

“Supply numerators to make all the fractions equal $\frac{1}{3}$.”

When finished, the work of each pupil was thus expressed:

$$\frac{4}{12}, \frac{5}{15}, \frac{7}{21}, \frac{9}{27}, \frac{12}{36}, \frac{20}{60}, \frac{30}{90}$$

“Erase all the numerators and make each fraction equal $\frac{2}{3}$.”

All succeeded in securing the following results:

$$\frac{8}{12}, \frac{10}{15}, \frac{14}{21}, \frac{18}{27}, \frac{24}{36}, \frac{40}{60}, \frac{60}{90}$$

“You know that $\frac{8}{12} = \frac{2}{3}$; what is the number that when divided into 8 will give 2, and when divided into 12 will give 3?”

After some guessing, Louis named the correct number.

“Make the statement to the class, Louis.”

“8 divided by 4 is 2; 12 divided by 4 is 3.”

“Who can make a statement for the second fraction?” Several pupils wished to try. “Ida”. “5 into 10 goes 2; 5 into 15 goes 3.”

This method was continued until a statement had been made for each fraction.

“If $\frac{8}{12}$ is the same as $\frac{2}{3}$, what do you call $\frac{2}{3}$? “The lowest terms”.

GROUP II. went to the board.

The teacher dictated the following numerators: $\frac{7}{\quad}$ $\frac{9}{\quad}$ $\frac{11}{\quad}$ $\frac{15}{\quad}$ $\frac{20}{\quad}$ $\frac{25}{\quad}$

“Make all the fractions equal $\frac{1}{4}$.”

The work was then expressed: $\frac{7}{28}$ $\frac{9}{36}$ $\frac{11}{44}$ $\frac{15}{60}$ $\frac{20}{80}$ $\frac{25}{100}$

“Erase all the numerators, and make each fraction equal $\frac{3}{4}$.”

When completed, the work was thus expressed: $\frac{21}{28}$ $\frac{27}{36}$ $\frac{33}{44}$ $\frac{45}{60}$ $\frac{60}{80}$ $\frac{75}{100}$

“Mary, reduce $\frac{21}{28}$ to its *lowest terms*”.

“7 into 21 goes 3, and 7 into 28 goes 4”.

“Who knows what made Mary think of 7?”

No one could tell.

"Well, we'll ask you that another day".

The remaining fractions were dealt with in a similar manner.

GROUP III. went to the board.

The teacher dictated: $\frac{12}{18}$ $\frac{24}{36}$ $\frac{60}{90}$

"Make the first fraction equal $\frac{3}{4}$; the second $\frac{2}{3}$; the third $\frac{5}{6}$; the fourth $\frac{11}{12}$; the fifth $\frac{3}{4}$; and the last $\frac{8}{9}$ ".

The pupils found no trouble in supplying the correct numerators.

"Reduce them all to their *lowest terms*".

The work was thus expressed: $\frac{9}{12} = \frac{3}{4}$; $\frac{12}{18} = \frac{2}{3}$; $\frac{20}{24} = \frac{5}{6}$; etc.

Individual pupils were then called upon to explain the operation involved.

"Now for six *hard ones*". $\frac{18}{36}$ $\frac{32}{64}$ $\frac{40}{160}$ $\frac{60}{360}$ $\frac{70}{80}$ $\frac{100}{1000}$.

Although the teacher called these examples *hard*, they proved to be quite simple, and were readily worked by all the pupils of Group III.

"Those were not so very hard after all; were they? I'll think up some *harder* ones for to-morrow".

Such remarks from the teacher tended to establish a pleasant relationship between himself and the pupils. This creates an atmosphere in which pupils can put forth their very best efforts. They realize that the teacher is a sympathetic friend. They appreciate his words of praise; they enjoy occasional bits of fun; they never fear that their mistakes will draw forth ridicule or sarcasm.

Most teachers *take life too seriously*. Exactness in computation and perfection in spelling are, in their minds, the standards by which humanity is to be judged. Humour should be strictly confined to the pages of "Life", "Punch", and like periodicals. Smiles in the classroom must be rigidly suppressed. Such teachers grow old before their time, and cease to be fit companions of childhood.

A great deal of "learning" is indirect, acquired at odd moments, and often comes through the heart instead of through the "prescribed" senses. Only those teachers who understand the child's attitude and are sympathetic with all his interests can appeal to the heart. Every time the teacher creates a wholesome laugh in the classroom, she strengthens the tie of friendship and sympathy between herself and the pupils.

This may seem a strange digression from a lesson in arithmetic. But we must remember that a lesson is only a means to an end, and that end is to LEARN HOW TO LIVE IN ITS FULLEST MEANING. So we are never digressing so long as we keep that end carefully in view.

Picture Study

From the Artist's Standpoint

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IN an Art course, pictures are studied not only for the purpose of forming an appreciation of their final beauty and an understanding of the story they may suggest, but also for the purpose of learning the various principles involved in their production.

After the various principles and methods that the artist has employed to get an effect have been studied and are understood, the picture becomes doubly interesting. The difficulties with which the artist had to contend become apparent: our appreciation is all the greater when we realize with what determination a problem has been attacked and see how successfully the difficulties have been overcome. Much knowledge is gained when a picture is considered from the standpoint of the artist who produced it.

While taking up a picture with a class the teacher has an opportunity to make the pupils familiar with the meanings of the more important technical words and phrases which are used in describing pictures. These the pupils will afterwards use in describing their own productions. The following are suggested, but the teacher might easily add a dozen or so more: composition; line (in composition); local colour; sky line; horizon line; rhythm; chiaroscuro; atmosphere; transparency; vibration; opaque colours; accent; reflection and shadow; action; impressionism; nocturne; mosaic; mural painting; conventional compositions; *genre* pictures; classical landscape, etc.

Our next consideration is what to study. It will not be necessary to append a long graded list of pictures for study in the various forms. Many such lists have already been made out. It might be well to suggest, however, that many of the "Old Masters" contain many errors, and much may be learned by a critical study of these. The subject becomes intensely practical, too, if the productions of the pupils, such as still life studies and simple landscapes, are studied in the same way. It might be well to suggest also that a course in picture study should include examples which illustrate the various technical methods of painting, as well as examples of the more important schools of painting.

Concerning method much has already been written. The writer has at times found it very instructive to study only one or two principles in a lesson, illustrating these by a large number of pictures by as many different artists.

SUGGESTIONS

Some technical points to consider in every picture:

- | | |
|-----------------------------|---|
| 1. The Artist's view point. | 5. Technique. |
| 2. Composition. | 6. Title. |
| 3. Lighting. | 7. The characteristics of the artist as revealed by a study of a picture. |
| 4. Colouring. | |

1. The Artist's View Point.—(a) *The artist's distance from the picture.* The distance of the artist from the foreground objects in the picture may be determined by comparing the relative sizes of objects in the picture. Receding objects become smaller. At twice the distance they become only half the size. If, for instance, there are two adult figures in a picture at different distances from the observer, and one appears only half as large as the other, we would know that the artist is as far away from the first figure as the second one is from the first. While it would be impossible to determine the distance of the artist from the picture with mathematical accuracy, nevertheless there are always sufficient details to give an approximate result.

The distance from which the artist viewed a given subject may be determined by carefully studying the sharpness with which edges have been represented, and the presence, or degree of absence of local colour.

It is very interesting to observe how much of the background is obscured by the foreground objects. If the artist is at considerable distance from the foreground objects, they will obscure less of the background than they would if he were close.

(b) *The eye level.*—The eye level of the artist is determined by the position of the horizon line.

(c) *The station point.*—In some pictures, particularly those in which architectural features are indicated (see classical landscapes by Claude Lorrain) the station point of the artist may be accurately found by directly applying the principles of linear perspective.

2. Composition.—(a) *The geometrical basis of the composition.*—All successful compositions have a definite geometrical basis or design. This may be quite conventional or formal, as in many of Raphael's pictures; or it may be informal, as in most of Rembrandt's pictures. Any composition which lacks a definite structure or pattern will not "carry" from one side of the room to the other.

(b) *Methods of emphasizing the centre of interest.*—A picture may have only ONE centre of interest. It is impossible to look at any more than one thing at a time. There are various ways in which the artist may emphasize this centre. Some of these are as follows:

By placing it in the foreground.

By placing it centrally (not the exact centre) in the picture.

By making it of considerable size.

By making lines in the picture point towards it.

By avoiding lines which lead away from the centre of interest or out of the picture.

By isolating it, that is by not partially hiding it with subordinate objects of interest.

By contrasting it in tone and colour with the background.

By using in the centre the highest light or darkest tone (or both), that will be found in the picture.

By directing the gaze of animals or persons in the picture towards it.

By showing it in more detail.

By showing it with well-defined edges.

By placing it at the centre of the "cone of vision".

(c) *Methods of subordination.* Principles opposite to those given above should be considered here.

(d) *Method of showing depth of distance in a picture.*—By linear perspective. Receding objects appear smaller. Most of the old Japanese pictures make interesting studies on account of their disregard for the principles of perspective.

By aerial perspective. This is the loss of local tone and colour due to distance. Dark objects appear lighter and bluer as they approach the horizon. Light objects appear *slightly* greyer and warmer as they approach the horizon.

By representing distant tones and colours as flat as possible and with little or no detail.

By losing the sharp edges.

By representing the atmospheric vibration.

By natural frames. By this is meant the natural setting given to the picture by the artist himself. The picture may be shown through an archway, through an opening in a mass of foliage, through a window frame, etc. (See sketch No. 13, MacWhirter's Sketch Book.)

By lines leading into the picture.

(e) *Balance.*—Balance of masses. (Consider here the centre of interest.)

Balance of lines.

Balance of tones.

Balance of movement.

(f) *Space relations.*—In an informal composition the artist avoids dividing the spaces at his disposal into equal parts, or for that matter, into parts where the relation in size between them is very evident. A proportion which has been used considerably and with good results is that of medial section, about five to eight. The division of the space

is best left to the feeling of the artist. It is largely determined by the subject in hand.

(g) *Methods of showing stability in a composition.*—Stability in a composition may be obtained by using the pyramid as a basis. This is the most static form of design that is known.

By well balanced lines.

By using horizontal lines.

Stability of *objects* in the picture is obtained by the use of shadows.

(h) *Contrast.*—Contrast of tones. Contrast of lines. Contrast of colour.

(i) *Methods of showing action.*—By slanting lines. If a line is leaning, and has nothing to support it, it will appear to be falling.

By lines pointing in many different directions.

By flowing rhythmical lines.

By representing action figures as they appear and not as they actually are. On account of its motion an arm thrust forward will appear longer than it actually is. Some of the modern painters are using distortion in their action figures in an attempt to produce the optical illusion which actually takes place.

(j) *Rhythm.*—Rhythm in recurring lines. Rhythm in flowing lines. Rhythm of light.—(See *genre* pictures by Dutch artists.) Rhythm of colour. Rhythm of movement.

(k) *Unity.* A picture may have only one centre of interest.

Objects in a group should be arranged so as to suggest unity.

3. Lighting.—Every picture should have a well-defined light and shade scheme, unless it is a decorative composition. There is generally one brightest spot in a picture. No part of any picture can be brighter in tone than the source of light. (Holman Hunt's *Light of the World* makes an interesting study in lighting. There are three sources of light in this picture.)

(a) *Use of shadows.*—Shadows give stability to various objects in a picture.

They help to explain the form of objects which cast them.

They help to explain the form and texture of the surface upon which they fall.

A shadow may sometimes be considered as a mass of tone which may be necessary to complete a certain portion of a composition.

The shadow will determine the source of light.

The shadow determines the intensity of the light. If the shadow has a well-defined edge the light is intense.

When a shadow is represented free from an object the object will appear unsupported and falling through the air.

An artist relies upon his shadows to get brilliancy in his pictures.

In this connection it would be interesting to study the effects produced in some of our mural decorations where shadows are not used.

(b) *Transparency*. (Shadows are never black.)

(c) *Reflections*.

(d) *Textures and High lights*.

(c) *Chiaroscuro*. (The effect produced by contrast of tones.)

4. Colouring.—When a good colour print or an original is being studied the teacher has to a limited extent an opportunity of discussing (1) local colour, (2) apparent colour, (3) colour harmony, and (4) the effect that one colour has upon another when placed beside it.

5. Technique.—The study of technique will necessarily be very limited. Perhaps a few might have an opportunity of studying an original oil painting or water colour, or even of visiting an art gallery. Brush handling, textures, impressionistic painting, and distemper painting would be a few of the things which could be considered.

The various methods of representing texture might be studied in good reproductions. Compare the draperies in the following pictures: *L'indifférent*, by Watteau, *Clytemnestra*, by Leighton. *The Fates*, by Edward Simmons. *The Prophets*, by Sargent.

6. Title.—Some pictures may have three titles. One may be obtained by simply naming the centre of interest. Another may be obtained by considering the picture from the standpoint of the story it may suggest. The third is a title from the standpoint of the artist. Following are a few titles which may illustrate this third point.

Autumn. (A study in intensity of colour.) *A Symphony in White*. (A study in subtle values.) *A Study in Black*. *An Arrangement in Grays*. (A design or pattern.) *Still Life*. (Textures.) *Nocturne*.

7. Characteristics of the Artist.—Most artists have a style and choice of subject peculiarly their own. Claude Lorrain, Millet, Corot, Watteau, Botticelli, Pieter de Hooch, Greuze, etc., are outstanding artists who have so impressed their personality upon their productions that a child could identify their pictures among a thousand others. An expert is even able to tell, with a fair degree of accuracy, the author of an unsigned painting.

A Long Island teacher was recounting the story of Red Riding Hood. After describing the woods and the wild animals that flourished therein, she added: "Suddenly Red Riding Hood heard a great noise. She turned about, and what do you suppose she saw standing there, gazing at her and showing all its sharp, white teeth?"

"Teddy Roosevelt!" volunteered one of the boys.

Primary Department

Form I Geography: An Outline

[See—Ontario Teachers' Geography Manual, chapters IV and V.]

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AT this stage Geography and Nature Study cannot be sharply differentiated. In reality the work is Geographical Nature Study. The basis is the unified experience of the child in connection with his immediate life. Facts by themselves are of no value. They must be presented in connection with the child's own experience. That is, the lesson topics must be selected almost exclusively from what can be observed in and around the home and the school. No absolute course can be outlined suitable for all communities, but if the resourceful teacher will be guided by the following suggestions, the course can be easily adapted to meet the needs of any locality. Everything included is thought to be suitable for Form I, but it is not necessary that the work should be taught in the order outlined below. Lessons should be given when the time is most opportune. For example, a lesson on "snow" may be taken on the occasion of the first snow-fall; on, "Autumn", in the fall of the year, etc. Much is purposely left to the discretion and the individuality of the teacher in regard to the selection of topics for particular lessons. It is advisable to keep a record of all lessons taught.

I. The Home and its Surroundings.

1. Informal conversations about members of the family—mother, father, . . . and the daily services of each.
2. Similar conversations on family pleasures—picnics, excursions, vacations, family gatherings. . . .
3. Discussion of home activities—cooking meals, baking, marketing, washing, ironing. . . .
4. Foods and their preparation—wheat, corn, potatoes, milk, butter, cheese, meats, fruits and how they are preserved. . . .
5. Articles of clothing—choice of clothing suitable for each season; care of clothing at home and at school; materials of clothing, cotton, wool, silk, skins of animals. . . .
6. The home itself—location; parts—hall, parlor . . . ; materials—stone, wood, brick, cement. . . . Workers needed in making—carpenter and what he does, mason and his work, painter, paperhanger, plumber . . . ; furnishings. . . .

II. Community Activities.

1. Food—study of farm, market, grocery store. . . .
2. Clothing—sources of fur, wool, leather, cotton, linen, silk. . . .
3. Shelter—sources of materials such as wood, brick, stone, cement. . . .
4. Fuel—wood, coal, electricity, gas. . . .
5. Transportation—wagon roads, railways, waterways, and the purposes each serves.
6. Elementary notions of exchange in connection with the foregoing.

III. General Notions of Direction.

The pupils are already familiar with terms denoting direction. All that is necessary is to give them an opportunity to use such terms definitely and consciously. The aim is to so impress upon them the meaning and application of ideas of distance, position, and direction that they will be able to use these terms intelligently and freely in conversation.

1. Right and left. . . .
2. The cardinal points of the compass.
3. The semi-cardinal points of the compass.
4. Directions of principal streets and roads.
5. Location of observed objects, places, public buildings. . . .
6. Directions of local streams, of winds, of birds' flight, of cloud movements, of weather vane. . . .

IV. General Notions of Time.

1. Day, night, morning, evening, sunrise, sunset, daybreak; twilight, noon, forenoon (a.m.), afternoon (p.m.), hour, minute. . . .
2. Week, days of week, mid-week, week-end, fortnight. . . .
3. Month, names of month, number of days in each.
 "Thirty days has September", . . .

V. Observations of Weather, Sun, Moon, Seasons.

1. Weather—Observations on cloudy and sunny days, on cold and warm days, on wet and dry days, of snow storms, of hail storms. . . . Conversations on these topics and the keeping of simple weather records on the black-board, on large cards, or on calendars. Further observations of winds, clouds, rain, snow, frost, dew, as suggested by nature.

2. The Sun—Observations of the sun as the source of light and heat' its progress from sunrise to sunset, its absence during the night, its changing shadows, relative length of day and night, simple observations with shadow stick.

3. The Moon—Observations of its changing position and appearance, the keeping of a monthly record on the blackboard of its changing appearance.

4. The Seasons—Names of the seasons, the months included in each, some of the chief characteristics of each season, activities of play and work incident to each season.

VI. Land and Water Forms.

1. The teacher should familiarize himself with the land and water forms actually found in the environment of the school.

2. Beginning with the land and water forms nearest the school, the teacher will usually find many opportunities for directing the pupils' observation. The schoolyard, the roadsides, and the surrounding farms furnish lakes, islands, capes, rivers, etc., in endless variety.

3. Merely talking about these forms is a waste of time. The pupil must learn by contact and observation. The purpose is to arouse the pupil's mental activity and direct him to make discoveries for himself.

4. No one neighbourhood will furnish all the land and water forms, but every school section will have sufficient material to give the pupils a fundamental knowledge which may be supplemented by the use of pictures, drawings, and other visual aids to the constructive imagination.

VII. Suggested Readings for the Teacher.

1. *Highroads of Geography*—Book I, Thos. Nelson & Sons. 2. *Home Geography*—by C. C. Lang. 3. *Stories of Country Life*—American Book Company. 4. *Home Geography for Primary Grades*—Educational Publishing Co. 5. *How the World is Fed*—Carpenter. 6. *How the World is Clothed*—Carpenter. 7. *How the World is Housed*—Carpenter. 8. *How we are Fed*—Chamberlain. 9. *How we are Sheltered*—Chamberlain. 10. *How we are Clothed*—Chamberlain. 11. *The Earth. Its Familiar Objects*—Rose. 12. *The Teaching of Geography*—Geikie. 13. *The Teaching of Geography in Elementary Schools*—Dodge & Kirchwey. 14. *The Little Cousin Series, 30 vols.*—The Page Co., Boston.

Story Telling—Why and Where

ANNIE J. WORKMAN;

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THE importance of story telling is proven by its antiquity, its universality, its popularity, and its practical value. Away back in the childhood of our race, a well told story was eagerly listened to. So to-day, not merely in the homes of civilization but in the tents of the red Indian, in the huts of the African jungle, in the bazaars of India, and in the islands of the sea, all classes, rich and poor, old and young, the learned and the illiterate, all may be reached in the same way.

The aim of this and succeeding articles is to discuss the importance of story telling in the education of the child. The most casual observer of children admits the value of the story as a means of amusement. Psychology, however, furnishes a more fundamental reason for our use of the story. The dramatic instinct is universal. The child grieves, even weeps, perhaps, over the difficulties of the hero, then thrills with pleasure over the happy outcome. According to G. Stanley Hall this pleasure-pain experience is distinctly valuable for both old and young.

So strong is the power of suggestion in children that it is possible to inculcate the most valuable lessons through the medium of the story. The small boy hears a story of one who bravely endures pain, and he is much more apt to be brave the next time he experiences suffering.

Although stories were used as a means of conveying truth even before the Christian era, they were not used in the school until comparatively recent times. Because of lack of interest on the part of the teacher many schools even now do not gain as much as they might from an intelligent use of vivid narratives. The relaxation afforded by the story helps to secure the right atmosphere for ideal work. A good story will capture the hostile child and win the shy one by establishing freedom of relationship between teacher and child.

The story may be used profitably in arousing the child's interest in history and literature. Indeed, no better means can be found to develop a love of history and good literature. The child who hears the incidents of history and the best things in literature told in an interesting way soon desires to read such material for himself. With the young child an interest in nature, science, and art may be aroused by a judicious use of stories. The story may be used, too, as an aid in language. If told to them a very few times children will enthusiastically dramatize a story they cannot yet read, supplying the words to clothe their conception of the theme.

Stories tend towards the socializing of the child by leading him to experience with the rest of the group a feeling of common interest in vital things. In the story period the children as a group go together in thought to the ends of time and space.

Thus, both psychology and pedagogy furnish ample authority for the use of the narrative in teaching. There are still other reasons—a child's life-experiences are interpreted to him by the story. Moreover, there is no better way, aside from the example of his loved ones, of leading the child to "be good". This is done not by teaching moral content, as such, but by arousing deep feeling. The great racial stories stir deep emotions because they have come down to us as the result of strong feeling in the breast of primitive man. By means of the narrative joy may be aroused and the child is then more open to receive the best

influences. It is the desire of the educator to inculcate high ideals and there is no better means than by the telling of properly chosen stories. The child sees graphically the results of good and evil deeds, and is impelled to reach for higher standards. In the story hour the child lives through many experiences. He succors the weak with Sir Galahad and hates the hypocrisy of a Heap. His own shortcomings are brought before him vividly, and in an impersonal manner. Another valuable tendency of the story is in the enlarging of the child's sympathies. This is accomplished by fostering a love of nature and by giving the child glimpses into the lives of others.

In planning for story telling as a means of education we are following in the footsteps of the great teachers of all time. Take, for example, the wonderful parables of the Master, Plutarch's Lives, or the tales told by the monks of the Middle Ages. Froebel provided for story telling in his scheme of education. G. Stanley Hall says, "Let me make the stories and I care not who makes the text books".

The field of the story teller is a wide one. The kindergarten and the school afford wide scope but the child should have many stories before entering either. It is a part of our social inheritance to hear and to tell stories, and the home must do its share. If the child has to wait for his stories until he enters school he misses those belonging to an earlier stage of development, or he hears them when they are less appealing. An additional reason for the use of stories in the home even with older children is that there they may be applied more easily and effectively to the individual needs of the hearers.

The playground and the library afford other opportunities. The leader of the playground wisely uses stories to affect the conduct of the children. The librarian uses the story to create a desire for good literature and to introduce new books.

In church work stories are a valuable aid. Many of the modern preachers such as Talmage, Beecher and Spurgeon have used them freely in the pulpit. In her work with young children the church is more successful if the approach to Bible teaching is by means of the story. With older children the story should be used freely for illustrative purposes.

Even in business and social circles the narrative is important. The commercial traveller, the promoter, the everyday companion, the after-dinner speaker, or the lecturer who can tell a good story effectively is always popular.

If it be agreed that story telling is an important phase of the educative process, it will also be admitted that preparation for the work is essential. For a subsequent article the discussion of this preparation is reserved.

The Unification of the Kindergarten and Primary Schools

ETHEL M. HALL
Public School, Weston

“EVERY great biography is the record of the entrance into the world of a *new force*, bringing with it something different from all that was there before, and of the way it gradually gets itself incorporated with the *old* so as to become a part of the future”.

Obviously, therefore, two things are needed by those who wish to understand it—*first*, a *clear comprehension* of the *nature* of the *new force* itself; and *secondly*, a view of *that with which* it is to be *incorporated*.

Without the latter, the specific difference of the former cannot be understood, nor can the manner of its reception be appreciated—the welcome with which it is to be received or the *opposition* with which it has to struggle.

The kindergarten-primary has brought into the educational system more that is original and destined to modify the future training of childhood than anything that has ever entered into it. But we can neither understand it, nor the fortunes which it may encounter in seeking to incorporate itself into our school system, without a clear view of the conditions in which it must work.

Hitherto we have had our kindergartens, introducing beauty and rhythm into the lives of little children. We have had our primary schools appealing to the practical side of education.

For many years a great gulf existed between the kindergarten and primary schools, which was accepted by both sections. Occasionally a progressive worker in either department tried to bridge the gulf, but she was so thoroughly alone in her efforts that she finally gave up the idea of ever being able to accomplish anything.

The kindergarten movement from its very foundation was essentially different from that of the primary school. In the first place it had a founder—a man many years in advance of his day. He made mistakes, but he saw that which his followers failed to see—a vision of the spirit of the kindergarten throughout all grades.

The primary teacher could point to no such founder of her department. She was often annoyed by the assumption of superiority on the part of some kindergarteners. Thus the chasm between the two departments deepened. Each instructor travelled along her own pathway, seeking a summit of excellence in her own chosen work, and failed to see that the kindergarten and primary grades were founded with the same object in view—the training of the little child.

Dr. Dewey says: "The child is the *starting point*, the *centre* and the *end*. His development, his growth is the *ideal*. It alone furnishes the standard. To the growth of the child all subjects are subservient—they are the instruments, valued as they serve the needs of growth. Personality, character are more than subject matter. Literally we must take our stand with the child and our departure from him. It is *he*, not the subject matter, which determines both quality and quantity".

If the point of departure be the same in both kindergarten and primary schools, why should any gulf exist? Many primary teachers receive their pupils from the home at five years of age. The kindergartner does the same.

The kindergartner child in the embryo is not different from the primary child at the same stage of development. Wherein has lain the difference in a short time?

Every *true* primary teacher loves and understands little children as well as the kindergartner can possibly do. She is just as eager for the full development of the child's powers. Then why have primary teachers been accused of lack of interest in the physical, mental, and moral development of the child?

The fault has lain in the course of study not in the child or teacher. When the primary teacher looks into the faces of the little ones shining with love and adoration for her, she unconsciously offers a silent prayer for wisdom in guiding these sensitive little plants. How she would love to take time to study and observe them! How she longs to understand each disposition, so that she may best know how to help them! But the course of study for the First Grade haunts her. She is afraid she may not cover it in the specified time. It is not that the primary teacher has lost her child study conscience. It is a case of professional life and death. So she generally makes her choice on the professional life side. Once in a while a primary teacher is brave enough to place the *child* ahead of the curriculum, because she knows that "the development of character is the goal in education; that education was made for the child, not the child for education".

As a result she experiences such a joy and freedom in her work that a revolution takes place in her methods of teaching. A spirit of joyous activity permeates all the work of the day. This is nothing more or less than the spirit which has always existed in the kindergarten and should *ever live* in the primary room.

It is this freedom and joy in her work which has been at the foundation of the happiness of the kindergartner.

This is why the pathways of the kindergarten and primary grades, having the same point of departure—the child—diverged so widely

after a few months. The primary teacher looked worn and anxious while the kindergartner retained her joyousness.

The kindergartner remembered that growth is from within, outward, and she waited for her seeds to germinate and her plants to grow. The primary teacher became alarmed if she had not covered a stated amount of subject matter, so she began to dig around her seeds and pull them out to see why growth was not more apparent. Then she applied stimulants to aid rapid growth. She succeeded in forcing a blossom for examination days, but her plant was a sickly thing—sleepless, nervous and unhappy.

The spirit of the kindergarten is apparent in the kindergarten-primary, where the spirit of *playfulness* enters into every moment of the day.

The same spirit may enter into every First Grade room and need not stop at the First Grade.

The question is frequently asked: "Is it necessary for the primary teacher to receive special training in order to incorporate the kindergarten into the First Grade"?

Most assuredly, yes! It matters not how successful she may be as a primary teacher, she needs the thorough kindergarten training in addition to her professional work. But most of all she requires the spiritual uplift which that training will give her. She cannot assimilate too much in six weeks or six years. Like every other thing worth while, it is a progressive "pressing toward the mark for the prize of the high calling" toward which every primary teacher and every kindergarten teacher should aim.

We are not striving to do away with the kindergarten. We *are striving* to introduce into the primary school all the happiness and joyousness of the kindergarten; everything in apparatus which will develop initiative on the part of the primary pupil. We want more self-directed effort on his part; we want materials which will act as stimuli upon the pupils and lead to invention and creative power; we want the child to suggest the problem, not the teacher.

What is the function of the teacher in this new order of education?

The teacher is not the point of departure in all things as formerly. She recognizes the right of every child to be an active, exploring little being, developing his inner resources by every form of investigation and creative effort. Her task is to nourish and assist, to watch, encourage and guide, induce rather than interfere, prescribe, or restrict.

The adaptation of the new order of education requires *skilful personalities* even more than apparatus. The kindergarten-primary in the hands of one who has not seen a *vision* of its possibilities in the future, will be a *tragedy*.

"The old order changeth, giving place to new".

Methods of Teaching Reading

G. W. LEWIS

Author of the Lewis Story Method of Teaching Reading and Spelling

IF we were to make a careful study of many methods of teaching reading, we would discover in each the characteristics of one or more of the following type methods: The Object-word Methods, the Picture-word Methods, the (pure) Word Methods, the Action-word Methods, the Thought or Sentence Methods, and the Phonic Methods, or we may find THE LEWIS STORY METHOD.

The method to be used in teaching anything should be determined by the nature of the problem or problems involved. In teaching reading the practical objects are, first, to enable the pupil through the medium of the words, signs, and sentences of the written or printed page silently to interpret the ideas, thoughts, feelings and actions expressed by the writer; and second, to enable the pupil to convey these ideas, thoughts, and feelings to others with such force as to cause them to act.

The first object is by far the more important. For we should remember that perhaps ninety-nine per cent. (99%) of the reading done by adults is silent reading only, and that practically all the studying the pupil does in school is done through silent reading.

We should also remember that *the written or printed page contains no ideas, thoughts or feelings. But, just as the empty tracks made in the snow by some animal indicate to the experienced hunter that a rabbit or other animal, with which he associates the tracks, has passed over the snow, even so the characters on the written or printed page are the mere empty tracks left by some one's ideas, thoughts, and feelings, and they disclose to the experienced reader the sounds representing the articulate words through which the writer would have expressed these ideas, thoughts, and feelings in audible words.*

Nor should we forget that *the beginner should never be permitted to read, anything involving ideas, thoughts, feelings, or actions not already within the sphere of his experience. If the ideas, thoughts, feelings and actions involved in the reading have not been gained by the child's previous contact with the world, and if he does not understand the spoken words with which these are expressed, then it should be the teacher's first care to see that the child is made familiar with the ideas, thoughts, feelings, and actions involved and with the audible language for the same.* In making explanations the teacher should remember that no explanation can be satisfactory to the child unless it is made in terms of his experience.

When the teacher is sure that the child is familiar with the ideas, thoughts, feelings and actions involved and with the oral form of the

language in which they are expressed, *it remains only to teach the child to interpret the visible form of the word into the spoken or audible form, and thus to associate the visible form through the audible or spoken form with the ideas.*

The seeing pupil must be taught, as it were, to see sounds, while the blind pupil must be taught to recognize familiar sounds through the sense of touch.

In the Object-word Method the idea is to be gained directly from the object, and with the idea the child is to associate first the audible form and through it the visible form of the word.

The principle is correct; but when we get outside the realm of objects, the method fails; and even within the realm of objects it is frequently impossible to bring the class and the objects together.

In the Picture-word Method the ideas are gained from pictures, while in the Action-word Method the ideas, thoughts, feelings, etc., are gained from action or dramatization. Unless we can take advantage of moving pictures or supplement our pictures with appropriate actions or dramatizations, the Picture-word Method fails when we get into the realm of action. But it is capable of a much wider range of application than the Object-word Method. For, in many instances in which it would be impossible to bring the objects and the children together, appropriate pictures may be secured.

Each of the above methods has its advantages; but it also has its limitations. In teaching foreign pupils or in developing an oral vocabulary they are invaluable. But in teaching a child to read a vocabulary already familiar to his ears, and representing ideas, thoughts, feelings, and actions within his experience, the object, the picture, and the action may be discarded. We then have simply the Word Method. In this and the previous methods, the teacher gives the child the word as a whole.

In this way children readily acquire a limited number of words. But, in so doing, they depend solely upon the memory and develop no ability to help themselves with new words. A prominent advocate of the Word Method, Miss Bradford, says: "We continue to teach words as wholes for the first five weeks, but as the number of words increases there is danger of confusion. When the child forgets a word it must be given to him again. He has no power to recall it except by association. Nor has he as yet any ability to help himself with new words. He is entirely dependent upon others. To overcome this we now introduce phonic analysis".

In the Thought or Sentence Method the teacher either leads the child to express a complete thought in his own words, or she gives him a complete sentence (usually taken from some nursery rhyme)

with which he is supposed to be familiar. This is put on the board (in visible form), and the pupil is required to repeat from memory the sentence as a whole until he can identify each written word with its corresponding oral word by the position it holds in the sentence.

As in the Word Method the burden soon becomes too great for the memory and phonic analysis is resorted to.

Many educators who use the foregoing methods recognize the strain they put upon the child; and therefore they insist that, at the end of the first year, the reading vocabulary of the child should not exceed two hundred and fifty or three hundred words. If he is taught by The Lewis Story Method, by the end of three months he should have a vocabulary much larger than this, and by the end of the first year he should be able to read practically everything to which he could listen intelligently. For many pupils taught by this method, a reading vocabulary of one thousand words at the end of the year would be rather small.

The Lewis Story Method embodies, as T. J. COATES, First Rural School Supervisor of Kentucky, says, "all the good features of the best modern methods of teaching reading and none of the objectionable features". But so much emphasis is placed upon phonics that it may be classed as a phonic method, in which everything is taught through story, song and play.

Ordinary first grade pupils taught by this method, in less than nine months have read with pleasure and understanding eight primers, eight first readers, seven second and two third readers. That they understood what they read was proved by their telling the stories in their own words after a single silent reading. That they found pleasure in their reading was proved by the fact that most pupils read more at home than at school, many pupils completing a book in a single evening. A class of twelve pupils, not one of whom could speak a word of English when they entered school in September, after being taught by this method seven months, could read with ease from any first or second reader. This is only one of many equally gratifying experiences with foreign children.

Another important feature of The Lewis Story Method of Teaching Reading and Spelling is the excellent results secured in spelling. Some of the first grade pupils who had been in school less than nine months were used in institute work to demonstrate the results that had been obtained by the method. To a little Norwegian boy who had been in school only one hundred and fifty-five days, the teachers and several college professors without previous warning proposed the following words: convention, intervention, subtraction, extraction, multiplication, grasshopper, apple blossom, butterfly, congratulation, addition. To the surprise of all present he spelled each word correctly. This boy was one

of the better spellers, but not the best. To the delight of all the teachers he read selections made by them from books belonging to all grades below the high school.

By the end of the first three months the first grade pupils had mastered for reading purpose more than one thousand words, and by the end of the year they could write from dictation more than six hundred words; while at the end of the second year they could spell almost any word that is not an exception to the rules of spelling, and they could read with pleasure and understanding many books that are not usually read until the fifth, sixth or seventh year.

But far more important than this ability to read and spell was the pleasure which these pupils found in their work and the habit which they formed for reading good books.

These results secured by The Lewis Story Method are due to the nature of the equipment with which the teacher is provided. In The Lewis Story Method Manual, for the first eight weeks of school, the author has planned twenty units of work (really play-work) involving accurate ear and eye training, the development of the vocal organs, the building of more than eight hundred phonic words, the inculcation of politeness and the lesson that true happiness is found only in service to others.

This work has been so carefully systematized that just one phonic fact is given at a time and this is presented in perfect harmony with with the laws of apperception. So definite also are the steps in working out the problems involved, that many children soon become able to act as pupil teachers and to render efficient help in bringing up to grade the pupils who enter late, or who for other reasons may be retarded.

Through this careful planning much time is saved; for nothing is taught and then allowed to be forgotten. In each unit some one essential fact is taught and each day thereafter it is reviewed or used in the advanced work. But the progress of the child must depend largely upon the spirit with which he works.

Hence, The Lewis Story Method seeks to make the child happy and contented, and to keep him so from the moment he enters school until the end. Through story and play his attention is secured, and all work is done because it is a real pleasure to him. The teacher's equipment is made to secure and to hold his attention. Everything has been so planned that the moment the child is given the first story about the five happy little fairies, or the busy dwarfs, he is always eager for the next story.

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Teachers and mothers wishing full information about THE LEWIS STORY METHOD may get the same free by addressing the author, G. W. LEWIS, 4707 St. Lawrence Ave., Chicago, Ill.

Teaching Material in Government Publications

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THE material of value to teachers found in government publications is largely related to the subjects of nature study, geography, history and civics. Possibly these are the most interesting subjects for the child, and ones upon which he requires the freshest material. Government publications contain a great store of material along these lines. Moreover the books are easy to obtain and the various government departments are anxious to give the widest publicity to their reports. Thousands of the blue books, special reports, and other material sent annually to the newspapers and to friends of members of parliament, are thrown away and never read. The teacher, as the best trained man in most communities, is a very proper agent for the dissemination of this information.

There are two sources of such publications, federal and provincial. The reports of the federal government are issued yearly in a series that comprises about fifty volumes and are a complete compendium of the public transactions of the country. Each of the provinces issues departmental reports and special publications that are highly instructive.

Of course the material available is found in the current reports. Old reports are out of print and cannot be found except in a few libraries. All the teacher has to do is to send a card or letter to the department and the publication will be mailed to him at once.

The government is, in fact, the biggest university in the country. The departmental staffs are manned by some of the best trained men in the land who are devoting their lives and talents to the service of the country; for example, Dr. William Saunders, the discoverer of Marquis wheat, and the late C. C. James, the father of agricultural education in Canada. Then there was the late Dr. James Fletcher, the Dominion Entomologist, who waged an incessant and successful war against the hostile insect world.

For a teacher in Western Canada, *i.e.*, the prairie provinces, one of the most instructive of publications is the report of the Department of the Interior. First one should study the Deputy Minister's report and get a general summary of the work done in each branch of this important department of the public service. Then should follow a study of the administration of Dominion Lands, Immigration, Forestry, Dominion Parks, Water Powers and Yukon Territory. The statistical tables are particularly valuable. They give an accurate idea of the

material progress of the country and are an infallible guide in teaching civics. They indicate over what matters of public policy the Dominion government exercises control and explain the intricacies of departmental machinery. These statistics show yearly the revenue from Dominion lands, the number of acres of arable and waste land in the Northwest, the homestead entries, immigration by nationalities, grants and sales of Dominion lands to corporations such as the C.P.R. and the Hudson's Bay Co., annual acreage under field crops, grain production, elevator capacity, and census of live stock. Such information should be especially interesting to the live teacher who desires his pupils to know the conditions necessary to an intelligent knowledge of public affairs.

The reports of the superintendent of forestry deal most interestingly with the principal forest trees of the great wooded belts of the Northwest. Here the teacher will find first-hand and accurate information respecting the names of the native trees, especially those varieties that furnish merchantable timber, besides accurate data on the forest products of Canada. Such information cannot be found in any school geography.

The reports of the Superintendent of Dominion Parks are an inexhaustible source of information on the flora and fauna of the plains and forests. These beautifully illustrated reports are equal to the best textbooks on nature study and teach us that Canada's national playgrounds are equal and in many respects superior to those in the United States and Europe.

Special Publications.—In addition to the regular departmental reports, the Department of the Interior issues thousands of maps and numerous special reports. The maps deal with homesteads, topography, railways, and a particularly instructive series is the cereal maps indicating by means of coloured circles the grain production per township throughout Western Canada. The special reports are compiled by men thoroughly familiar with the resources of the great Northwest and are calculated to give the fullest and most accurate information available respecting the vast resources of unexplored Canada. Such subjects are always topics of absorbing interest to young students, and ample material is at hand to inspire them with a new vision and love for our own Canada.

The government maps and reports are the best available and as accurate and full as can be produced. They are, in fact, the sources of information for all commercial maps and textbooks of the country, and far surpass the shallow, second-hand, running comments on Western Canada of those writers who study it from car windows. A few examples may be added as follows—*Canada's Fertile Northland*, issued in 1907;

Reports of Exploration, by J. P. Crean, C.E., issued in 1911; *The Unexploited West*, issued in 1914; *The Athabaska Country*, issued in 1916. These have been distributed in thousands and no doubt any teacher may obtain them by applying to the Department at Ottawa.

These are merely a few suggestions dealing with the wealth of information that is available to every teacher. This department has been chosen first because it deals particularly with western problems and conditions.

Agriculture.—Teachers throughout the country should keep in touch with the Department of Agriculture at Ottawa, as well as the provincial departments of at least their own respective provinces. The federal department issues regularly a splendid series of bulletins dealing with every phase of agriculture. These are valuable for the scientific information contained therein based on the actual experiment and observation of trained men, and for their practical value in dealing with the important questions of farm work within the experience of the children of every rural Public School. It is impossible to give a list but what could be more interesting to young pupils than the following:—*Control of cut worms in the prairie provinces, Common garden insects and their control, Gopher destruction, Trees and shrubs tested in Manitoba, Saskatchewan and Alberta, Quality in wheat, Hardy apples for the Canadian Northwest, Cut worms and army worms, Alkali soils.*

The report of the Dominion Entomologist is more interesting to a child than a novel. The work being done by this branch of the Department of Agriculture furnishes excellent teaching material in nature study. For example, the work being done in combatting the ravages of the Brown Tail moth and the Gipsy moth in Nova Scotia and New Brunswick by the importation of parasites and predaceous beetles that prey upon these pests presents a story of enthralling interest. Here is an open door into the mysteries of science that the youngest child may enter. Then there is the work done in Alberta to destroy the Red-backed Cut worm, the Wheat-Stem Saw-fly, and the Eelworm, the latter supposed to be associated with the destruction of winter wheat in Southern Alberta.

Similar interest is attached to the report of the Botanist, Cerealist, and Chemist, who are always willing to accommodate enquirers with their publications.

Fisheries.—Canada has over 12,000 miles of sea-washed coast line—5,000 miles on the Atlantic Coast and 7,000 miles on the Pacific Coast. In addition, we have 220,000 square miles of fresh water fishing territory. The annual reports of the Fisheries Department contain extensive information on the nature of the fishing grounds, methods

of catch, and principal varieties of fish. Some of the best scientific men of Canada are employed in this department and their work constitutes valuable contributions to Canadian zoology. At the present time, when the cost of living is rising by leaps and bounds, the importance of fish in the diet of the nation should be considered.

R.N.W.M. Police.—Many writers have attempted to describe the work of the Northwest Mounted Police but nothing can take the place of the reports of the superintendents and inspectors embodied in the sessional papers of Canada covering the work of this body of men from their first arrival in the Great Lone Land over thirty years ago. These reports comprise an accurate history of the development of the country and include a periodical census of the various inspectorates, accounts of Indian uprisings, railway expansion, the live stock industry, and thrilling stories of cattle thieves, whiskey traders, and outlaws like Charcoal and Almighty Voice told in plain English by the men who participated in the execution of British justice.

Mines.—This department is divided into the Mines and Geological Survey branches. The publications of these branches represent some of the most useful and instructive scientific literature printed in Canada. They include exhaustive reports of field work in geology, paleontology, mineralogy, botany and zoology relating to every province and district of Canada. A few of the publications relating to Western Canada are as follows: *Coalfields of Manitoba, Saskatchewan and Alberta*; *Clay and shale deposits of Western Canada*; *Bituminous sands of North Alberta*; *Geological notes of Sheep River Gas and Oil field*.

Every part of Western Canada has been explored by such eminent scientists as Dowling, McConnell, Brock, Selwyn, Dawson, Tyrell and others of equal ability and knowledge. Their work, compiled and indexed in the regular reports of the branch, is a veritable encyclopaedia of the natural history of the West.

Naval Science.—This is a new department of the public service. It is one of the evidences of our widening interests as a nation. The report for 1915 contains a splendid account of the Canadian Arctic expedition under Stefansson including the interesting diary of Captain Bartlett of the *Karluk*. This report would be invaluable in impressing some of the geography work in the higher grades.

Indians.—The sessional papers of Canada contain the text of all the treaties made by the Government of Canada with the various Indian tribes. The text of these treaties has also been issued in book form under the title, *The Treaties of Canada with the Indians of Manitoba, the Northwest*

Territories and Keewatin, Toronto, 1880, but the later treaties are not included. A very valuable work on the subject of Indians was issued by the Geographical Board of Canada in 1913 entitled, *Handbook of Indians of Canada* and should be in the hands of the teachers throughout the country.

Archives.—The publications of the Archives department of Canada reach many volumes. The early volumes are hard to get but there are two or three that should be in the hands of the teachers of history in the higher grades. These deal with the constitutional documents of Canada from 1759 to 1841, in three volumes. There are also two volumes on Prairie Legislation.

Trade and Commerce.—To supplement geography work, the reports of the Department of Trade and Commerce comprise valuable material. These reports are scattered over the country in tons. The Weekly Bulletin of the Department containing reports from Canadian Trade Commissioners and agents in all parts of the world should be useful to students and teachers alike.

It is impossible to give a list of all government publications. There remain the reports of the various provincial governments which have not been referred to at all. The departments of agriculture in all the provinces issue very useful bulletins dealing with problems peculiar to each province. These are easily obtainable and should be kept for reference in all school libraries. The Provincial Library has almost a complete set of the publications of Canada and the provinces, issued within the last ten years, and, if information is desired by any teacher or student in Alberta, it will be carefully and cheerfully furnished if possible.

Book Reviews

Defoe's Robinson Crusoe, edited by W. P. Trent. 260 pages. Price 60 cents. Ginn & Co., Boston. Prof. Trent has presented this old favourite in very serviceable and attractive form for the class-room. A life of Defoe, a history of the book and a critical estimate of its worth, and fairly full explanatory notes furnish all the aid required by either teacher or pupil, while 25 full-page illustrations add very much to the attractiveness of the volume.

G. M. J.

Scott's Ivanhoe, edited by William D. Lew's. 597 pages. Price 60 cents. Ginn & Co., Boston. The editor of this school edition of *Ivanhoe* has kept both teacher and pupils in view in preparing his notes and introductory matter. A short biography of Scott is followed by definite, practical suggestions as to how this masterpiece should be treated in the class-room. The notes on the text are rather brief, but a full glossary is furnished which will be exceedingly useful. There are many small drawings and five full page pictures.

G. M. J.

The Proposed Pension Scheme for Teachers in Alberta

S. J. DYMOND

Crescent Heights Collegiate Institute, Calgary

AFTER one year given to the study of pension schemes for teachers and for others the Committee on Pensions, appointed in 1915 by the Alberta Educational Association, was asked to proceed with the drafting of a scheme suitable to the conditions existing and likely to continue in the Province. At the Annual Convention of the Association this year the Committee presented an outline of a scheme of combined insurance and annuities, which met with the strong approval of the members. The main features of the suggested scheme are: Equal contributions will be asked from the teachers and the Government. With the money so obtained an insurance policy will be taken out for each teacher, such policy to be commutable at the retiring age to an annuity for life, or for a term of years; or, if deemed desirable, the insurance may be paid to the insured in one sum.

The Committee's studies reveal that the teacher has to face three hazards: premature death, incapacity through ill health, and old age. It is the hope of the Committee that protection may be secured for incapacity, temporary or permanent. Protection, in case of premature death, for the teacher's dependents would be secured by the insurance, and for the teacher's advanced years by the annuity.

It may be mentioned that among other options a straight annuity is provided for in the scheme. Another feature of such a scheme may be noted—if the scheme be adopted the Government will be asked to give the same aid to teachers in service who are already insured to capacity, thus helping them to carry the cost of their insurance.

The promoters of the scheme have been in touch with several insurance companies and have received favourable replies. They believe that such a scheme worked through the ordinary insurance channels will meet the great objections to all pension schemes, since it secures (1) a sound actuarial basis; (2) a definite indication of the cost to the Government of the scheme; and (3) it forestalls expensive commissions to enquire into the working of the scheme through lack of security, such as New York City has recently had for its various schemes which were on the verge of bankruptcy.

Is it too much to believe that such a scheme would fulfil the aims of the Committee?

These aims are (1) to attract to and hold in the service the best types of manhood and womanhood; (2) to increase the tenure of service, and to make the profession more stable; (3) to give to the teacher ease of mind as to his dependents and his future, thus enabling him to devote himself more zealously to his daily duties; all of which may be summed up in one great aim—to improve the education of Alberta's children. Let Alberta lead in establishing so sound and sure a pension scheme that she shall show by her enlightened attitude in progressive legislation her true desire to give to her children the best education.

Book Reviews

How to Teach, by George Drayton Strayer and Naomi Norsworthy. New York The Macmillan Company, 1917. Pp. vii+294. Price \$1.30. There is an element of sadness about this book. Dr. Norsworthy, a professor of psychology in Teachers College, Columbia University, died soon after the completion of her task. Let it be said at the outset that the book is a fitting memorial to her. The present reviewer has often pointed out in these columns that not much progress will be made in methods of teaching unless the changes made are based on a sound psychology. Here is a book that fulfils the conditions. The authors state: "The art of teaching is based primarily upon the science of psychology. In this book the authors have sought to make clear the principles of psychology which are involved in teaching, and to show definitely their application in the work of the classroom". Teachers looking out for "tips" or "new tricks of the trade" should not read the book. Those seeking to improve their methods by means of a deeper understanding of the psychological principles involved can find no better aid. The chapters deal with "The Work of the Teacher; Original Nature; Attention and Interest in Teaching; The Formation of Habits; How to Memorise; The Teacher's Use of Imagination; How Thinking may be stimulated; Appreciation; The Meaning of Play; The Significance of Individual Differences; The Development of Moral Social Conduct; Transfer of Training; Types of Classroom Exercises; How to Study; and Measuring the Achievements of Children". The last chapter is a valuable one, although, perhaps at this stage, the reprints of the measuring scales for handwriting, composition, etc., are hardly necessary. The book is written in a crisp, non-technical style. It will abundantly repay a studious perusal by any teacher or student of education. P. S.

Experiments in Educational Psychology, by Daniel Starch. New York. The Macmillan Company, 1917. Pp. vii+183. Price 90 cents. The fact that already there have been issued six reprints of this book, since its first publication in 1911, testifies to its usefulness. Some of the experiments are designed for classroom use; others need a psychological laboratory. But any student will improve his grasp on psychological problems by working through this series of experiments. The book can be confidently recommended to all teachers of elementary educational psychology.

P. S.

A School Russian Grammar, by E. G. Underwood. Blackie & Son, London. Gives a concise conspectus of the main points in Russian grammar. The lack of exercises and vocabularies makes the book unsuitable for teaching purposes.

D. E. H.

Standard Russian Copy Books. M. B. Karrachy-Smith. Sampson Low, Marston & Co., Ltd., London. Useful in teaching the proper formation of the Russian letters.

D. E. H.

Making the Rural School a Community Centre

H. D. AINLAY

Assistant Principal, Queen Alexandra School, Edmonton

I GOT my experience in community centre work as a rural teacher in Southern Alberta. The school was situated in a homestead district which had been settled some eight or ten years. The population was of mixed nationalities and so may be taken as fairly representative. The nearest railway town, nine miles distant, had formerly been the only centre of amusement and social activities.

I first organized a club for the winter months with the double purpose of encouraging sociability and of rendering aid to the needy. The membership grew to be about one hundred; the initial fee was ten cents. Social gatherings were held at which collections were taken to raise a Christmas-tree fund. A business meeting was held once a month. The roll was called and then the first question was, "Are there any in the district who are ill or in need"? The regular order of business was carried out at every meeting. Our funds provided a fine Christmas-tree which was loaded with good things for the children. Thus were the winter months provided for.

But the summer was a very different matter. The only amusements had been a visit to town and an occasional picnic. I felt that this should be remedied.

After talking to a few of the ratepayers I broached the scheme of having a half holiday on Saturdays at least twice a month. Some favoured the idea while, of course, others put forward the usual threadbare arguments, "It won't work", "The farmers haven't time", or, "The men won't quit work to go to a picnic". However, a few were willing to try it.

The first date was set and at 1 p.m. about twenty-five people came to the school. As there were several rifles and plenty of ammunition, a shooting match was arranged for men and women. Other games were started; some of the men had a great opinion of their ability to jump, throw horse shoes, etc. It is needless to say that the afternoon was enjoyably spent.

About six o'clock I called a meeting and took up the idea of getting more sporting equipment. A good collection was taken up for this purpose, and it was decided to get a baseball and a bat, a croquet outfit and a tennis set. This would require more than we had funds for, but one of the men opened up his heart and (what was to better purpose)

his purse, and advanced sufficient money to carry out our scheme. The men agreed to make a bee and prepare a baseball diamond and a tennis court. This was done before the next picnic.

The second gathering was a surprise to everyone. People came from several of the adjoining districts and the attendance must have been about one hundred. The farmers took their teams out of the fields and gave their hired men the half-day off. Many came to think before the end of the season that they got as much work done when taking this half-holiday twice a month as they did before. At any rate the gatherings were well patronized by the entire community.

It was amusing to see the men in heavy plough boots chase the ball around in their endeavour to learn to play tennis. But our court wasn't easily damaged and everyone had a good time. In some cases the parents discovered that their boys would now rather go to their own school than spend the day in town.

These half-holidays were continued until harvest time and then I felt it was not fair to expect the men to leave their work when the time was so short and so much required to be done. But still I was unwilling that the gatherings should be discontinued and so I suggested that they be turned into garden parties to start about 7 p.m. This was agreed upon. A booth was put up and we had icecream, fruit and candy to sell at cost. Large crowds gathered at these parties which continued until late in the fall.

In this way not only were the people provided with amusement and social intercourse but, as a result of this, many of the petty jealousies and differences which had previously divided them were wiped out. A feeling of local pride in their community bound the people together and led to greater harmony in the district. Hence I feel that the project of making my school a community centre was well worth while, and not least among the advantages is the fact that the children when grown will have happier memories of the little white school house than they would have had if their only associations with the school had been of the daily grind at their studies.

Student—Professor, someone is using a crib in your class!

Professor—How do you know, sir?

Student—I looked for it in the library and it was out.

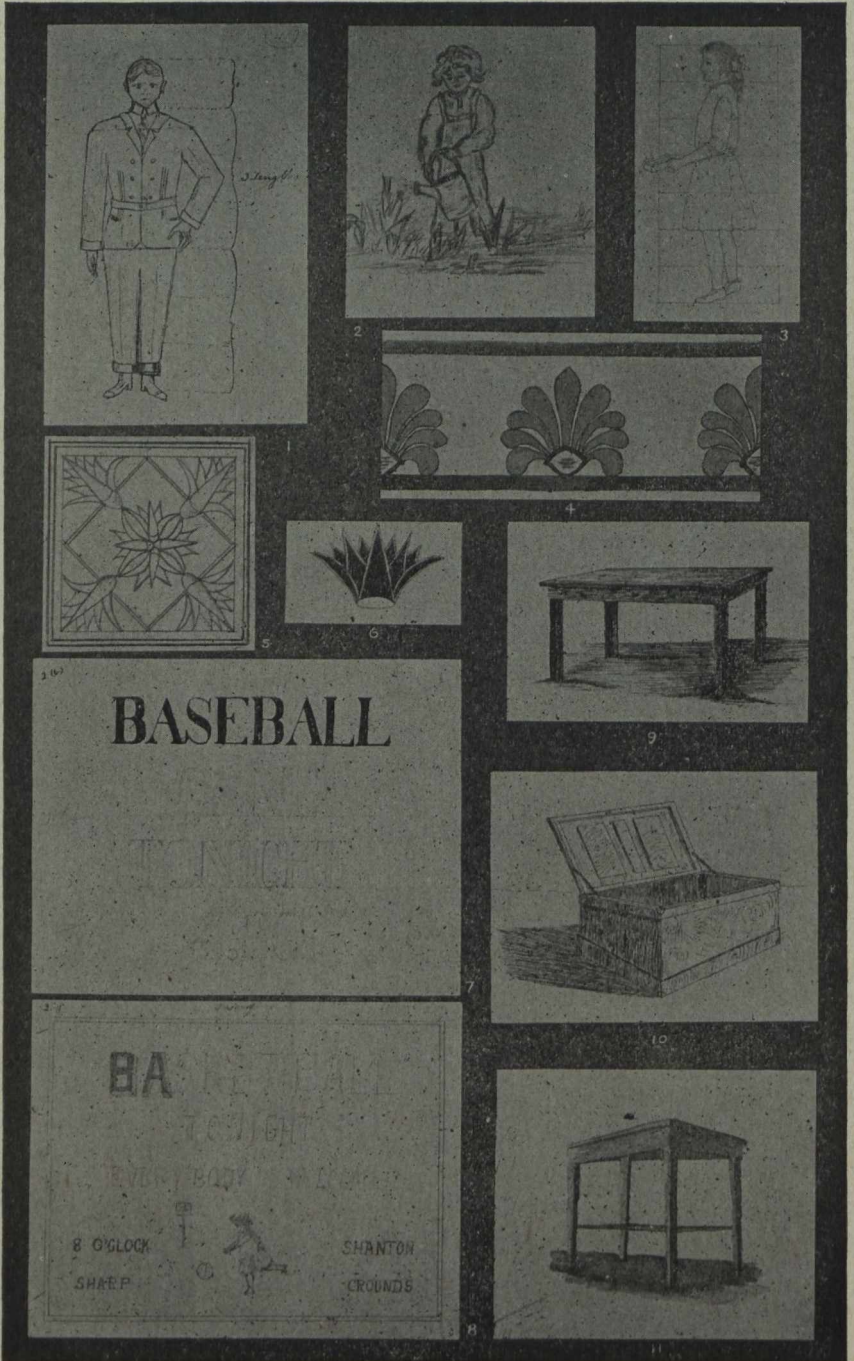
“What is the name of the principal river in Egypt?”

“The Nile.”

“That's right. Now you may name the Nile's smaller tributaries.”

“Juveniles.”

The Grade X Examinations in Art



THE accompanying illustrations represent a selection from the answer papers in drawing of the Grade X candidates in Alberta for the 1917 Departmental Examinations. They are intended to give teachers some idea of what is actually being accomplished along this line. The paper itself is printed below and the drawings which answer the several questions are indicated by number.

PROVINCE OF ALBERTA
HIGH SCHOOL AND UNIVERSITY
MÁTRICULATION EXAMINATIONS BOARD

Departmental Examinations, 1917

GRADE X.

DRAWING.

Time—Two hours.

NOTE.—Answer (a) or (b) of questions 1 and 2 and do not put more than the answer to one question on one sheet.

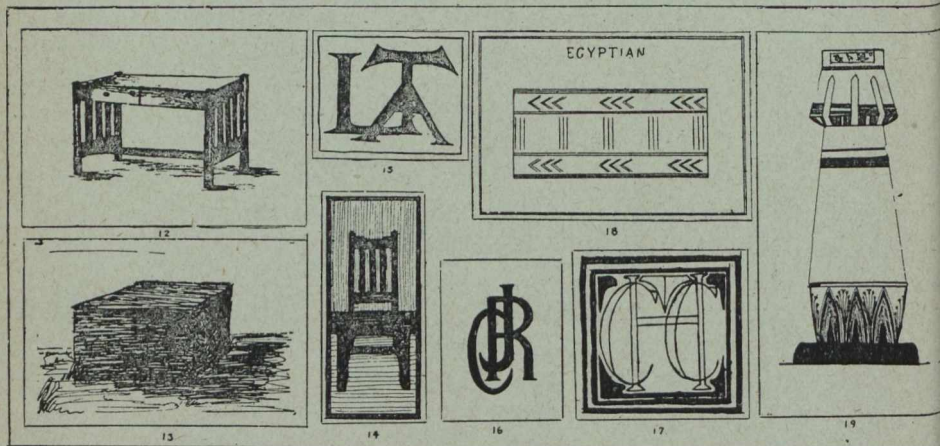
Values.

- 20 1. (a) (1) Draw an historic ornament pattern or typical detail from memory and indicate the country or the period from which it is taken. (Nos. 4, 5, 6, 18, 19.)
(2) Compare briefly the work of Corot and Turner or that of Michelangelo and Raphael.
- OR
- (b) (1) What is used as a basis of measurement and proportion in the human figure?
(2) Make a sketch of the human figure showing the general proportions. (Nos. 1, 2, 3.)
- 20 2. (a) Group three letters in a pleasing way, as in a monogram, using Old Roman letters. Render in pen and ink. (Nos. 15, 16, 17.)

OR

- (b) Make a pencil layout for a simple poster announcing a ball game. Indicate the necessary lettering, the relative sizes of letters, the spaces between lines of letters and the style of letters to be used. Tell what medium you would use and the size the finished poster would be. It is not necessary to make a complete poster but make all points clear. (Nos. 7, 8.)

- 20 3. Make a drawing of a chair, table, or box, with special attention to perspective. Render in pen and ink or water color. (Nos. 9, 10, 11, 12, 13, 14.)



AGRICULTURAL HOWLERS FROM ALBERTA. TAKEN FROM GRADE VIII EXAMINATION PAPERS.

Crop rotation means the rotting of crops from heat and moisture.

Put your farm where there's plenty of air.

Dry farming is land which has to be drained.

Crop rotation is having crops from one end of the farm to the other all the way around it.

The surface soil may have been formed by the rotation of dead grass.

Russian thistle is introduced into this country by Russian peasants who unknowingly bring them here on their clothes.

For a garden—it should not be in a cool place—but the Tropics of Capricorn and Cancer is a fairly good place.

In case of a windbreak I would put the cattle away and put something over the garden stuff, so as they may not be broken, and close the house and windows.

The surface soil was formed on this homestead by the nebular theory.

The wild oats are carried a little by the wind, but mostly by men pulling it up and carrying it along absentmindedly.

Livestock should be raised on a farm so they could get plenty of exercise.

To kill Russian thistle pull off the blossom and put kerosene on end of stalk.

Several boys were trying an examination for entrance to the University of Toronto Schools. On the paper in arithmetic was this problem: A quantity of hay, weighing 37 t. 16 cwt. 87 lbs., is to be drawn away by 12 teamsters. How much will each teamster haul? At the close of the examination, one boy came up to the master's desk. "Sir", said he, "I couldn't get that seventh problem. It has to be reduced to teamsters and we never took the table of teamsters".

Nature Study for September

PROFESSOR G. A. CORNISH, B.A.,
Faculty of Education, University of Toronto.

MUSHROOMS OR TOADSTOOLS.

Introductory.—A volume has just been issued by the British Government and distributed broadcast throughout all rural districts. It is entitled *The Wild Foods of Great Britain*. In this volume are described over two hundred different kinds of plants and animals that make excellent food and are largely used in continental countries, and yet are to only a very small extent utilized in Britain. Almost all of these plants and animals are just as abundant in Canada as in Britain, and are used for food to a still smaller extent here than there.

One kind of plant whose value is strongly emphasized is the mushroom or toadstool (there is no difference in their significance). Many tons of these go to waste in the fields and forests of every county of the Dominion, and that in spite of the fact that as food they are wholesome and toothsome—in fact a delicacy for which the wealthy are willing to pay large prices.

The reason why mushrooms or toadstools are not more generally used is that several kinds are poisonous and, for that reason, most people think that the only safe way is to avoid them all. The fact is that there are probably not more than a dozen that are poisonous, while those edible and pleasant to the taste can be counted by the thousands. As no rule can be given by which the poisonous can be distinguished from the edible, the only safe way is to eat none of which you have not actually learned the name.

As all are interested in the economizing of food at this critical period, and as much can be done by the teacher to spread proper ideas of thrift and economy, it is a suitable time to give the pupils their first nature study lesson on mushrooms or toadstools. If the teacher can arouse interest in these despised plants, it is quite possible that at least one or two in the school may wish to learn the names of some of the common fungi, and if a suitable volume is put in the school library, a permanent interest may be developed in these plants.

The Mushroom Plant.—The real mushroom plant is almost never seen by any but the botanist. That part which is ordinarily called the mushroom is merely an incident in its life. The plant itself grows entirely underground. It consists, not of stem and leaves, but of a network of thin white fibres like a mass of white cobwebs forming a tangle

in the rich soil of woods, in decaying tree-trunks, or in other organic matter. If one scrapes aside the mass of decaying leaves in a wood, a network of fibres will be seen. This is the plant itself. These are the parts of the plant that receive the food and cause all growth and development. Hence this plant is a shapeless thing without form or organs and a single individual may spread over a considerable area and to some depth. Such a structure in this plant is eminently adapted to the life it lives. Its main purpose is the absorption of nourishment in order that the plant may grow. Every fibre of the network is a little tube the outer surface of which is in contact with the decaying organic matter from which the food is absorbed. In order to absorb much food it requires a large surface of contact with the soil. In no way could this be accomplished so completely as by means of a network of capillary tubes, and as a single plant covers a considerable area, it can draw nourishment from many cubic feet of soil at the same time. As it lives entirely underground, green colouring matter would be quite useless and hence is lacking. While green plants manufacture their starchy food in the leaves and other green parts under the stimulus of sunlight, the mushroom depends on other decaying plants for its starch and can live as readily in a dark cellar as in the bright sunlight—in fact it can make no use of the sunlight.

The Reproductive Organs.—All have been surprised at the sudden appearance over night of a fully developed patch of mushrooms or toadstools, and we wonder at the sudden growth. But our wonder is due to our ignorance of that far-spread network that we have just described. When we think of all those millions of little tubes sucking up nourishment from the soil for yards around and directing the whole current of that food supply to build up the patch of mushrooms, the mystery of the rapid growth becomes intelligible.

The Cap or Pileus.—The umbrella-shaped structures were said to be merely an incident of the life of the plant. That is true. But it is a very important incident, for these are the reproductive structures. Each consists of a stem and a cap. These caps are exceedingly interesting and varied in shape and colour. Some of them are very beautiful. They pass through all shades of colour from the most immaculate white, through yellows, browns, reds, and blues, to dirty black. Their flesh is of various colours. Some are a beautiful blue, others red, others show a transition of colours, when broken, as varied as the changing tints of a chameleon. When the flesh of some is broken a milky juice exudes.

The Gills.—All of the caps on the under surface have a number of gills radiating from the margin to the stem. These gills are very im-

portant for their surface is covered with little oval masses called *spores*. This can readily be shown by cutting the stem off and placing the cap with the gills downward on a sheet of white paper. The cap is then covered by a tumbler or cup. After twenty-four hours, if the cup is removed, a beautiful spore print is left on the paper. It consists of radiating lines, one under each gill. These lines are caused by the spores dropping from the gills to the paper and accumulating there. One of the most interesting observations is made by placing a number of caps of different toadstools on papers in order to get their prints. When the caps are removed there on the papers are the circles of radiating lines of different colours. Some are white, some black, some red, brown, yellow, or purple. The colour of the spore print tells the colour of the spores. The first fact to be found about any toadstool in order to identify it is the colour of its spores.

The spores as they fall out of the plant are scattered widely by the wind. Moreover, as the fungus is eaten by many insects and snails, the spores adhere to their bodies and are carried long distances in this way also. When they fall in a suitable place the spores grow to form a new plant. Thus we see that while it is of great importance that the plant should be underground in order to get nutrition, and it would be of no value to have any of it above ground as in the green plants, on the other hand it is of outstanding importance that the reproductive parts should rise above the ground in order that the spores may be scattered.

Practical work by the pupils.—Let the pupils gather as many different kinds of toadstools as possible, cut off the caps and make spore prints of them. Let some of the plants be examined in school in order that the pupils may see the stem, cap, and gills. If a microscope is available, let the spores on a spore print be examined. Endeavour to obtain plants with spores of different colours such as white, brown, rusty, purple, and black. Have the pupils examine the ground under dead leaves in the woods and in decaying logs for the network of fibres. Secure for the school library *The Mushroom Book* or Atkinson's *Mushrooms, Edible and Poisonous*, and let the pupils try to identify any specimens they may find by comparing them with the pictures in these volumes.

The question was "Write a brief account of the life of Robert Walpole." The answer received began—"Robert Walpole was England's first Prime Minister. He had to do as Parliament wanted him to do, or they would dissolve him and put him out of powder."—*A Toronto Public School.*

The June Competition in Art

OWING, no doubt, to the pressure of the approaching mid-summer examinations there was a marked falling off in the number of competitors for this month. Many of the drawings were not up to the standard attained in preceding competitions. Some of the work was quite untidy, and some could lay no claim to originality. Very many of those who attained honourable mention did neat, original work, and, if they persevere, will be found among the prize-winners in succeeding competitions.

The Prize winners are as follows:—

A. Forms I and II.

First Prize—Marie Johnston, Ryerson Public School, Owen Sound.
Teacher, Miss Helen Shaw.

Second Prize—Ernest Belanger, St. Ignatius School, Steelton.
Teacher, Sr. Leontine Marie.

Third Prize—Andrew McNabb, Dufferin School, Owen Sound.
Teacher, Miss A. Dobie.

Honourable Mention for Merit—Marguerite Downing, Gertie Hooley, Jessie Duvell, Evelyn Lee, Anna McDonagh, Georgie Cunningham, Gladys Arthur, Clayton Taylor, Harding Middleboro, Morrison Reid, Harold Allen, Mossie Horton, Robert Skinner, Cora Stewart, Margery Hawke, Ida Baird, Harold Manning, Jean McGill, Jennie McAllister, Dufferin School, Owen Sound. Florette Lafleur, Frederic Bonneau, St. Ignatius School, Steelton. Ethel Bowerman, Mary Fenlon, Jack Wing, Rhoda Best, Reggie Parker, Jack Davis, Ruby Ramsay, Jennie Parks, Mildred Thomson, John Moon, Helen Batcheller, Ward Agnew, Ryerson School, Owen Sound. Flora Boires, Aline Bounet, Florence Mercier, Beatrice Ravary, Noella Ducheneau, Cecile Sauve, Oriza Fillion, Olivine Laviolette, Laurengo Thimens, Marie Rose Ladouceur, Mary Ladouceur, Sacred Heart Academy, Vankleek Hill. John Jay, Bella MacKee, Iris Faiers, Dorothy Campbell, The George Syme School, Runnymede.

B. Forms III and IV.

First Prize—M. Kindree, Ryerson Public School, Owen Sound.
Teacher, W. Douglass.

Second Prize—Juanita Le Barre, Oakville Public School. Teacher,
E. A. Common.

Third Prize—Jean McDonald, Ryerson Public School, Owen Sound.
Teacher, W. Douglass.

Honourable Mention for Merit—Viola Broad, Cathedral School, Hamilton. John Kurdziel, Victoria Huda, St. Ann's School, Hamilton. Vivian Campbell, Frank M. Adams, Jean Pringle, Ryerson School, Owen Sound. Francis Deane, Oakville Public School.

C. Lower School.

First Prize—Margaret Kennedy, Cathedral School, Hamilton.
Teacher, Sr. M. Inez.

Second Prize—Keitha Batchelor, Leamington High School. Teacher,
Miss L. M. McGinn.

Third Prize—Margaret H. Althouse, Winona Continuation School.
Teacher, Miss L. M. Van Duzer.

Honourable Mention for Merit—Alberta E. Osterhout, Elizabeth Cole, Leamington High School. Loretta Gibbons, Jean McDonald, Sadie Calder, Ida Armstrong, Marian Farrow, Fergus High School. Margery Sadlier, Elva Matthews, Margaret Healey, Amy Newton, Donald McNeil, Strathroy Collegiate Institute. Orlin Misener, Jessie Broion, Ridgeway Continuation School. Francis Burden, Mary Ryan, Cathedral School, St. Joseph's Convent, Hamilton.

D. Middle School.

First Prize—Jessie Noland, Barrie Collegiate Institute. Teacher,
Miss I. K. Cowan.

Book Reviews

The Ontario High School Chemistry, by George A. Cornish, B.A., Professor of Science, Faculty of Education, University of Toronto; assisted by Arthur Smith, B.A., Instructor in Chemistry, Central Technical School, Toronto. Pages v+297. Illustrated. Cloth, 50 cents. The Macmillans in Canada, Toronto. At last the science teachers of the province have an authorized chemistry text adequate to their needs. We do not know where we could find in the space occupied by this text so much matter pertaining to the curriculum, so clearly and tersely told. The outstanding feature of the book is its masterly presentation of the fundamental principles and laws. Original tables and diagrams (as in the laws of combination) present to the students in a lucid manner topics of real difficulty. Very properly a large space has been devoted to these. Some excellent features of this book are: (1) Excerpts from the great chemists introducing many topics; (2) Fifty-seven splendid illustrations and diagrams on a scale so large that minute details are not lacking in clearness; (3) An introduction to the subject through the topic of combustion, the most rational and interesting way to start a beginner; (4) The commercial preparations of those substances that are important industrially and best described by the aid of clear sectional diagrams (with one possible exception—the chamber process for the manufacture of sulphuric acid); (5) An extensive list of valuable questions concluding each chapter, a very valuable help to a busy teacher; (6) The portraits, biographies, and historical references to the great pioneers vitalizing the subject. The book, we feel sure, will receive a hearty welcome from the profession. H. A. G.

The Teacher's Book of Nature Study, published by Evans Brothers, London, England. 269 pages. Price 3s. 6d. net. A series of forty subjects are selected for nature study lessons. These are selected from all the realms of Nature, and they are invariably common objects than can easily be obtained for use in the school. Moreover, they are treated in a very interesting manner that should be very helpful to the teacher. The volume can be recommended unreservedly to the teachers of Canada. G. A. C.

The New Civics

G. M. JONES, B.A.

Faculty of Education, University of Toronto

FOR years there has been a lively discussion of the aims and content of civics. The conviction has grown that the older presentation of the subject was not interesting the pupils, and was doing very little to train up public-spirited, progressive citizens. Attention was given almost exclusively to the machinery of government. Immature boys and girls who knew little about the management of the city or village in which they lived were asked to learn from text-books a great mass of details about Provincial, Dominion and Imperial governments. They were not interested, chiefly because much of the matter was beyond their comprehension. If anyone doubts this, let him remember how very difficult it is to get a First Form High School Class to understand what is meant by responsible government.

Progressive teachers began some time ago to interest their students in the community in which they lived and to make them feel that they were not so much onlookers, or students, as citizens. Boys and girls learned about the officials of the city or town and their duties, and began to study the civic problems of the community, to discover not only how the municipal government was run, but whether it was run well, and whether any improvement could be made. In short, they were trained to think and act as citizens, even if they were still immature. To the subject presented in this way the name "community civics" was given. As the name needs explanation, let me quote from a short article by Mr. A. W. Dunn, in "The History Teacher's Magazine" of February 1915.

Community civics does not mean local civics merely. There is some confusion about this. Some seem to fear that community civics will displace an adequate consideration of the national and state governments. Sometimes there is talk about community civics in one grade and national civics in another. This is a misapprehension of the significance of the term.

It is true that community civics lays emphasis upon the local community because (1) it is the community with which every citizen, especially the child, comes into most intimate relations, and which is always in the foreground of experience; (2) it is easier for the child (as for any citizen) to realize his membership in the local community, to feel a sense of personal responsibility for it, to enter into actual co-operation with it than is the case with the national community.

But our nation and our state are communities, as well as our city or village, and the child is a citizen of the larger as of the smaller community. The significance of the term "community civics" does not lie in its geographical implications, but in its implication

of community relations, of a community of interests, of community co-operation through government, and so on. It is possible even to study one's own town without having the point of view or the spirit of community civics. It is a question of point of view and of attitude. And "community civics" applies this point of view and this attitude to the study of the national community as well as to the study of the local community.

This new definition of civics has led individual educationists and educational associations to survey the whole field, and to construct new courses of study in civics for elementary and secondary schools. Two recent reports on the subject are of special interest. The one was drawn up by a committee of the National Educational Association of the United States,* and the other by a committee of the American Political Science Association;† both are the result of thorough investigation. These reports assume that in the upper classes of the Public School the child will be given an elementary idea of his relation to the community and of the organization and functions of government, but they postpone the more formal, systematic treatment of civics till the High School period. Then community civics is made an important part of the work of the first or second year. Some idea of the scope of the subject may be had from the following excerpts made from the report of the Committee of the American Political Science Association.

TOPIC I—HEALTH—Community methods and agencies: To secure Pure Air, Pure Water, Pure Food. For Exercise, for Cleanliness. To avoid Contagion, to restrict the use of Drugs.

TOPIC II—PROTECTION OF LIFE AND PROPERTY—Agencies for the protection of life and property such as: Police, Courts, Legal Aid Societies. Militia, State Constabulary. Army, Navy. Patents and Copyrights.

TOPIC III—RECREATION—Recreation agencies and the community control of them. Such as the following may be discussed: Playgrounds, athletic fields and gymnasiums; Public baths, recreation piers and dance halls; Concerts, theatres and moving pictures; Botanical and zoological gardens, libraries, museums and art galleries; Fish and game protection and national parks.

TOPICS IV TO XI, each with its appropriate subdivisions, are as follows: Education, civic beauty, communication, transportation, migration, wealth, charities, correction.

TOPIC XII—Note the following, among others. Direct self-government: The town meeting; National and state constitutions as representing the direct will of the people; Recent development of the initiative, referendum and recall.

Representative self-government: Reasons for; Methods of representation, Proportional representation.

Division of governing powers: Local, state, national; Reasons for such division; Relations between state and local, between state and national.

Separation of powers: Legislative, executive, judicial; Reasons for; Degrees of separation in national, state, county, and city governments; Checks and balances.

Selection of representatives: The suffrage; Nominations; Conventions; Direct primaries; Preferential primaries; Elections; Party systems; Short ballot.

The civil service, civil service reform.

*Bulletins No. 23, 1915 and No. 28, 1916, U.S. Bureau of Education, Washington, D.C. Price 10 cents each.

†*The Teaching of Government*, A Report to the American Political Science Association, The Macmillan Co. of Canada. Price \$1.10.

Machine politics.

TOPICS XIII TO XV are: General organization of government, county, city, state, national; How government agencies are financed; How voluntary agencies are conducted and financed.

For senior High School classes the Committee of the American Political Science Association would prescribe a rather elaborate study of state and national government; but the Committee of the National Educational Association, realizing that neither political Science, not economics nor sociology ought to be taught as a science in the High School, proposes that "concrete problems of vital importance to society and of immediate interest to the pupils" should be taken up. The problem of immigration is taken as an example, and the following outline is suggested for its treatment.

Economic relations of immigration: Labour supply and other industrial problems (on the side of "production"); standards of living, not only of the immigrants, but also of native Americans as affected by immigration (on the side of "consumption"); relation to the problem of land tenure in the United States.

Sociological relations of immigration: Movements and distribution of population; congestion in cities, etc.; assimilation of immigrant population; admixture of races; vital statistics, health problems, etc.; educational and religious problems involved; social contributions of immigrants; art, science, ethics.

Political and governmental relations of immigration: Political contributions of immigrants; art, science, ethics; herited political conceptions with those of the country of their adoption; naturalization, its methods, abuses, etc.; the courts in the light of the processes of naturalization; administration of immigration laws; defects and inconsistencies in the methods of our Government as shown in legislation regarding immigrants and in the administration of the laws; problems of municipal government arising from or complicated by immigration.

Some reader may at once object, first, that the courses suggested are far too pretentious and advanced for High School classes, and secondly, that we can never find time to do so much work in civics, since our Canadian curricula are already overcrowded. If the courses are too advanced, too full, they can be easily modified to suit the ordinary High School class, and can, moreover, be made to suit the particular locality where they are used. The second objection is not a vital one. If some such courses in civics are necessary for the education of our boys and girls for citizenship, time for them *must* be found even at the sacrifice of less important subjects. Never in the history of the world was the education of the average citizen so important. Democratic government has been established in many of the leading countries of the world, and we believe it is destined to become universal, partly as a result of this war. The common people will ultimately control the destinies of this world. It is supremely important, therefore, that the average boy and girl should receive just as adequate a training for citizenship as the schools can give them.

Diary of the War

(Continued from the June number).

APRIL, 1917.

- April 1. British continue their advance towards St. Quentin; Savy, Epéhy and Peizieres villages taken. French progress between the Ailette and Laon road. Russians under General Baratoff pass through the Paitak Pass and reach within 18 miles of Kasr-i-Shirin. In East Africa a small mounted force of the enemy is rounded up near Lake Eyassi, 140 miles west of Kilimanjaro.
- April 2. President Wilson asks Congress to declare that a state of war exists between the United States and Germany. Between Bapaume and Arras British forces advance on a 10 mile front. Francilly-Selency, Selency, Holmon, Doignies and Croisilla taken. British and Russian forces meet on the left bank of the Diale. American armed liner *Aztec* torpedoed off the French Coast.
- April 3. *Russians badly beaten when the Germans win a bridgehead at Tolby on the Stockod; 10,000 prisoners.* British attack south-east of Arras; Hénin-sur-Cojeul taken, also Maissemy further south. French drive between La Fère and St. Quentin; villages of Dallon, Ginecourt and Cerisy taken.
- April 4. British capture Metz-en-Couture, south of Havrincourt Wood. On the road to St. Quentin, French forces reach the northeastern suburbs of Dallon. Russians occupy Khanikin. War resolution passes the American Senate. Brazilian steamer *Parana* torpedoed and sunk, 13 lives lost.
- April 5. *United States at War with Germany. She seizes 91 German ships interned in her harbours.* Great air battles in France. British advance between Cambrai and St. Quentin; three more villages taken. Hostile aeroplane drops bombs in Kent; no casualties.
- April 6. British lose 28 machines and the Germans lose 46 in two days' air fighting. Germans bombard Rheims.
- April 7. *Cuba declares war on Germany.* Two German destroyers torpedoed off Zeebrugge; one sunk. British two miles from St. Quentin; ground gained on a 3,000-yard front.
- April 8. Summer time comes into operation in the British Isles. Fighting in Mesopotamia on the line Garfa-Deli Abbas; left bank of the Shatt-el-Adhaim captured and Belad Station on the Bagdad-Samarra railway occupied. Austria-Hungary breaks off relations with the United States; Panama enters the war and decides to assist the United States in defence of the Panama Canal.
- April 9. *Opening of the great British offensive east of Arras. Canadians capture the Vimy Ridge. British forces penetrate to 3,000 yards depth on a front of 12 miles. Many villages and 9,000 prisoners taken.* Progress made at other points further to the south. General Maude occupies Harbe, four miles north of Belad. Brazil breaks off diplomatic relations with Germany.
- April 10. British advance continues all along the line. Farbus and Fampoux taken and outskirts of Monchy-le-Preux reached. Prisoners to date over 11,000. Hospital ship *Salta* mined in the Channel; 52 persons missing.

- April 11. British capture Monchy-le-Preux, but fail to hold positions captured near Bullecourt. French resume advance north of Soissons. Activity in Champagne and in the Woeuvre. Turks defeated by British near Deltawa.
- April 12. British capture two important positions astride the River Souchez. With the aid of "tanks" they storm Wancourt and Heninel, south of the Scarpe.
- April 13. Southeast of Arras the British get astride the Hindenburg Line. The villages of Bailleul, Willerval, Petit Vimy, Vimy, Givenchy-en-Gohelle captured. Prisoners now total 13,000. French attack on a five-mile front south of St. Quentin. Explosion occurs at a shell factory in Pennsylvania; nearly 200 lives lost.
- April 14. British capture Liévin, a suburb of Lens. Gricourt near to St. Quentin also captured. Freiburg bombarded by British and French aeroplanes as a reprisal for attacks on British hospital ships.
- April 15. *Austria endeavours to conclude a separate peace with Russia.* German counter-attack fails except at Lagnicourt, where they gain British trenches for a short time. Violent artillery bombardment along the Aisne and in Champagne.
- April 16. *French open a new offensive between Soissons and Rheims; many positions carried and 10,000 prisoners taken.* Food strikes in Berlin. General Maude within 15 miles of Samarra.
- April 17. French extend their attack to Western Champagne. They advance on a seven mile front from Prunay, carrying the heights south of Moronvillers; 3,500 more prisoners. British advance north of the Wadi Ghuzzeh on the way to Gaza, capturing advanced Turkish positions on a front of $6\frac{1}{2}$ miles. British hospital ships *Donegal* and *Lanfranc* torpedoed without warning; 74 lives lost, including 16 Germans. General Maude forces passage of Shatt-el-Adhaim, below Samarra.
- April 18. French make notable gains north of the Aisne towards Laon and capture Nanteuil, 1,300 prisoners. British capture Villers-Guislain, 12 miles south of Cambrai. They also progress towards Lens in the Loos sector. General Maude drives the 18th Turkish Army Corps from a position covering Istabulat station; 1,217 prisoners.
- April 19. French push on towards Laon. Laffaux and Condé Fort taken, also Jony and Aizy. Progress made southwest of Moronvillers.
- April 20. *Six German destroyers attempt a raid on Dover; two sunk, rest driven off by two British destroyers Swift and Broke. In this engagement vessels were boarded and hand-to-hand fighting took place; 118 prisoners.* French cross the Chemin-des-Dames, the road on the hilltops north of the Aisne; 19,000 prisoners to date. British capture Gonnelieu, a village 8 miles southwest of Cambrai.
- April 21. British airship lost at sea. British push ahead slightly from Fampoux towards Lens. French progress north of Sancy between the Aisne and the Chemin-des-Dames. Istabulat evacuated by the Turks; General Maude attacks their new positions six miles further north towards Samarra.
- April 22. A German counter-attack in the Moronvillers region defeated by the French. British progress east of Havrincourt Wood; part of Trescault village taken.

- April 23. British deliver an attack on a 12,000 yard front on both sides of the Scarpe. They take Guémappe and Gavrelle and 2,000 prisoners. Further south the St. Quentin Canal is reached near Vendhuile. Heavy fighting on the Craonne Ridge. General Maude defeats the Turks on the Tigris and occupies Samarra. Three British seaplanes attack five German destroyers off the Belgian coast; one believed sunk.
- April 24. British make an attack in Macedonia and gain a partial success. Further British advance between the Sensée River and Monchy; Bilhem, north-east of Trescault, carried. Great German losses in counter attack before Gavrelle. Turkish troops retreat to Jebel Hamrin in consequence of an attack by the British on the right bank of the Shatt-el-Adhaim.
- April 25. German destroyers bombard Dunkirk and sink a French torpedo-boat. British advance on the Doiran front, north of Salonika.
- April 26. *German counter-attack before Gavrelle defeated with sanguinary losses.* British push forward on each side of the Scarpe between Roeux and Gavrelle. German destroyers bombard Ramsgate; 5 casualties. German counter-attack on the Chemin-des-Dames repulsed.
- April 27. Mr. Lloyd George receives the freedom of the City of London.
- April 28. *Herr Helfferich claims over 1,600,000 tons of shipping, of which over 1,000,000 are British, sunk in the first two months of unlimited U-Boat warfare.* British attack the German line north of the Scarpe, capturing over two miles of enemy positions and the village of Arleux. *French take 20,780 prisoners from April 19th to date.*
- April 29. British capture another mile of positions south of Oppy. General Pétain appointed Chief of Staff to General Nivelles.
- April 30. British improve their new positions south of the Scarpe between the river and Monchy. French make a successful attack on a restricted front in Champagne advancing on both sides of Mont Cornillet.

An incident in the life of the father of the late Sir John Boyd is related by Mr. T. G. Mason of Toronto: "Mr. Boyd, who conducted the Toronto Academy on the west side of Bay street, south of King, on the site more recently occupied by the old National Club, was one day during school hours approached by the boys of his class with a petition written on a slate asking for a half holiday. The teacher read it, and, turning to the class, said: "No, no."

"A pupil rose immediately and said: 'Sir, I understand two negatives in the same sentence are equal to an affirmative.'

"Mr. Boyd, seeing the point, again turned to the class and said the holiday would be granted."

Five-year-old Herbert, scion of a bookish family, had learned to read so early and so readily that his first glimpses of story-land were growing hazy in his memory. One day he confided to his mother: "Ruthie showed me her new book to-day, and it's the queerest thing you ever saw! Why, it just says, 'Is it a dog? It is a dog. Can the dog queerest thing you ever saw?'" and a lot of things like that! 'Course I was too polite to say so, but it didn't seem to me the style was a bit juicy."

Teacher: "Do you know the population of New York?"

Mamie Backrow: "Not all of them, ma'am; but, then, we've only lived here two years."—*Puck.*

The Meaning of Some Common or Popular Plant-Names

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A COMMON plant-name like a poet, and unlike the corresponding scientific name, is *nascitur, non fit*; born, not made. The advantage of the scientific name, in addition to that of indicating relationship, is that it does not mislead. The popular name is frequently quite misleading. The dog's tooth violet is a lily and not a violet; knot grass is not grass, neither is blue-eyed grass; the mountain ash is related to the apple and not to the ash; our primrose is not a rose nor is it a *prime* or first plant to bloom. A calla lily is not a lily nor is prince's pine a pine.

On the other hand a great many common plant-names are so nearly synonymous with the corresponding scientific names that one seems to be practically a translation of the other. For example: sunflower and *helianthus*; horsetail and *equisetum*; goat's-beard and *tragopogon*; water-leaf and *hydrophyllum*; bloodroot and *sanguinaria*; buckwheat (*i.e.*, beechwheat) and *fagopyrum*; bittersweet and *dulcamara*; cranesbill and geranium.

In many cases, the common name so well harmonizes with the plant that the name requires no explanation: it is, in fact, self-explanatory. The following are examples: starflower, wintergreen, morning-glory, monkshood, moccasin flower, twinflower.

It is the aim of the writer to deal with plant-names whose meaning is more or less obscure and in some cases he will borrow light from sources quite unbotanical in order to co-ordinate as well as illuminate. Perhaps the distinguishing characteristic of a "horse-laugh" is its strength and coarseness; these characteristics are found in the plants named, horse-radish, horse-mint, and horse-balm. The name "bull-frog" indicates, not sex, but size, a large frog; a bull-thistle is a large thistle and a bulrush, a large rush. "Dog-latin" is degraded Latin; so in popular botanical terminology "dog" signifies degraded, contemptible; the dog-violet has no perfume; the dog-berry is useless for eating and dog-wood is useless as a wood. "Toady" in popular language signifies sycophantic, ungenue; in compound plant-names *toad* signifies false, spurious; toad-flax is false flax. A sow-thistle is a milky thistle. From the colloquial compounds "hog-town" and "road-hog" it is correctly inferred that hog-weed is a greedy or grasping plant.

In other plant-names compounded with animal names the signification is more literal. Catnip is a cat mint, a plant for which the genus *felis* has an inordinate fondness. A horse-chestnut is a tree whose leaf-stalks leave scars resembling the print of a horse's hoof. Coltsfoot is so named from the shape of its leaves. The hind-quarter of a lamb is shaped like the leaf of lamb's quarters: perhaps the white wool-like bloom over the plant also suggests lamb. For pigweed and chickweed, pigs and chickens have respectively a great fondness, and geese will greedily eat goose-grass. Skunk cabbage reminds us that comparisons are odorous. Catkin, the diminutive of *cat*, is synonymous with *kitten* or "pussy". Indian as a qualifying word signifies savage, uncultivated, e.g., Indian -turnip, Indian cucumber-root, Indian tobacco, Indian hemp.

When we say that "a cat has nine lives" we imply that it has several lives. "A nine days' wonder" is one lasting several days. Ninebark is a shrub with several layers of bark showing.

Corn is a general name for the chief grain of a country. In England corn is wheat; in Scotland it is oats; in Germany Korn is rye; in America corn is corn, that is maize. An acorn is an oak-corn or oak-grain. A corn flower is any flowering plant growing in grain fields; corn-cockle is a cockle or tares that associates itself with fields of grain. Kernel is diminutive of *corn* and thus signifies a *small grain* or a single grain. "Except a corn of wheat fall into the ground and die, it abideth alone" (John X, 11, 24) is, in the Revised Version, rendered, "Except a grain of wheat, etc". *Kernel* would have been a more literal though less idiomatic substitute for *corn*.

The words *white* and *wheat* have the same Anglo-Saxon root. This harmonizes with the fact that white bread is always wheat bread. Buckwheat is literally beech or beech-nut wheat, the grain of which has three corners like a beech-nut.

A butter-nut is an oily nut. A peanut is a nut-like fruit produced by a genus of the pea family: the synonym, ground-nut, is more descriptive and reminds one of *pomme-de-terre*. Walnut is not related etymologically to wall but to Welsh; a Welshman is literally a stranger or foreigner and a walnut is literally a strange nut.

Chestnut is not connected etymologically with *chest*, but is derived from *Castana*, in Thessaly, where the tree grew in abundance. The generic name of chestnut is *Castanea*. The currant gets its name from Corinth, whence the fruit is obtained. It might be here remarked that the dried currants are small seedless raisins which have no botanical relationship to the currants which we pick from bushes in our gardens.

Many plant-names are compounded with the Anglo-Saxon *wort* which means *plant* or *herb*. Liverwort is a liver-like plant and lungwort has mottled, lung-like leaves. Motherwort was once used as the source

of a domestic, or mother, medicine. Feverwort and feverfew also indicate medicinal functions. Toothwort (*dentaria*) was not used as a cure for toothache but was so named from its toothed rootstalk. Orchard is a corruption of wort-yard.

A weed has been defined as "a plant in the wrong place". This statement certainly does not apply to duckweed which is always found floating on the water. Fireweeds are abundant in recent clearings after being burnt over. Joe Pye weed was used by Joe Pye, an Indian medicine-man, in making decoctions for treating various maladies. A member of the same genus, boneset, was evidently named from supposed virtues in warding off "break-bone fever" or in the setting of a broken bone. Clearweed has a watery translucent stem. Bindweed binds by twining around objects over which it climbs.

The appropriateness of the derivation of radish from *radix*, a root, and of cabbage from *caput*, the head, can be readily appreciated. Cauliflower, like its French equivalent, *chou-fleur*, is literally *cabbage flower*. It is interesting to note that here is an instance of agreement between etymological and botanical relationships as the cabbage and the cauliflower belong to the same genus (*brassicà*).

An unbotanical poet in describing a southern country scene depicts a labourer as "picking the apple from the pine". Now the pine apple is not an apple nor does it grow on the pine, but the popular name in this case actually indicates the morphological similarity between the fruit or cone of the pine and the pine apple: each fruit is the product of a cluster of flowers and is called a *multiple* fruit. A pomegranate is *pomum granatum*, i.e., an apple with many grains or seeds. A name of the opposite signification will be required on the advent of the seedless apple.

A crab-apple is, literally, a *sour* apple, or one having a characteristic resembling that of a crabbed person. Witch is a name applied to a freaky or abnormal person. What is unusual in the witch-hazel, that it should be so named? It blooms in the autumn after shedding its leaves and while the fruit is still on the tree or shrub. The fruit from the autumn blossoms is not matured till the following summer. The uncanny manner in which the witch-hazel discharges its fruit is somewhat disquieting.

When the fruit of bittersweet is first tasted it is bitter but the after-taste is sweet. This example of botanical oxymoron reminds one of the facetious remark that "the fruit of the black-berry is red when it is green". The scientific name of the columbine (from *columba*, a dove) is *aquilegia* (from *aquila*, an eagle) another rather striking contradiction in terms.

Heather is a plant growing on heaths. A hawthorn is a thorny tree bearing haws. A dock is a coarse weed and a burdock is a dock having burrs. The shadbush blooms during the time for catching shad. That dodder, a twining parasitic plant, is appropriately named is evidenced when we connect the word with *doddering*, which signifies weak, infirm. Spearmint is a corruption of spiremint so called from its pyramidal inflorescence.

The raspberry gets its name from the rough, rasp-like stem of the plant. Its scientific name, *urbus strigosus*, indicates the same characteristic. Strawberry is probably a variation of stray-berry so named from its straggling habit. The first part of the words huckleberry and whortleberry are diminutives of words respectively meaning *hook* and *plant*. A cranberry is a crane-berry and the winterberry retains its fruit long after its leaves have fallen.

Dandelion is from the French *dent de lion*, lion's tooth, from the large indentations on its leaves. Daisy is derived from *day's eye* because the flower closes at night and opens at dawn of day. Sorrel is derived from the German *sauer*; sourness characterizes all plants which bear this popular name. Marigold may be a compound of *Mary* and *gold*, or of *mare*, the sea, and *gold*; the habitat of the plant is near a *mere* or marsh.

The difficulty experienced in attempting to walk through a clump of hobble-bushes will impress the pedestrian with the appropriateness of the name. The tripping or hobbling is caused by the loops formed by the rooting of some of the branches.

Corpse-plant is a parasite quite destitute of colour; its other name, Indian-pipe, is descriptive of the shape of the immature plant. Beech-drops, another parasite, is found under beech trees. Lettuce (*lactuca*) receives its name from the fact that its sap is milky. The sow-thistle has been called hare-lettuce from the fact that hares are fond of it.

Pliny states that loosestrife has a soothing effect upon oxen that are unwilling to draw under the same yoke. The divided leaves of the clover suggest that the word may be akin to *cloven*. Mrs. Dana expresses the opinion that the Latin *clava*, clubs, is the origin of the word; the clubs of playing cards are called *trèfle*, trefoil, by the French and may be an imitation of the clover leaf.

Gertrude Gladys was a bluestocking. Her shiny forehead above her round glasses hid an alarming amount of grey matter. Gertrude Gladys came home from college for the Easter holidays and arrived in a heavy downpour of rain.

"Gertrude," said her mother, "were you out in all that rain?"

"No, mother," said Gertrude Gladys severely. "I was merely in that portion of rain which descended in my immediate vicinity."

Teaching English Grammar to Foreign Children

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THE greatest difficulty with foreign children is their inability to understand English technical terms and phrases. This is the chief trouble in teaching them English grammar successfully. Terms such as subject, predicate, noun, adjective, interrogative, mean nothing whatever to them and being abstract terms are hard to learn.

A foreign pupil should not be given an elementary grammar text because its many technical terms will bewilder and discourage him at the very start, and its method of arrangement will often prove embarrassing.

A new grammatical term is always introduced a few days before it comes up in the daily grammar lesson by putting it in the spelling lesson. In a previous article the writer told of teaching the meaning of all words in each day's spelling lesson. The meaning of the new grammatical term is also learned in the spelling lesson.

Suppose we are going to teach the adverb and the class already knows noun, pronoun, verb, subject, predicate, and adjective. In the spelling lesson they have already learned that an adverb is a word which tells something about a verb, an adjective or another adverb, just as an adjective tells something about a noun or pronoun. Then some sentences containing several adverbs are written on the blackboard. Pointing to one of the adverbs, the teacher asks the pupils whether they can see that it describes a certain word in the sentence. Tell them that the word it describes is not a noun or a pronoun. Then ask what the word is. It will be found that several in the class will recognize the adverb immediately. This method is very useful in teaching all the different parts of speech.

Grammar is very closely related to composition. When I say grammar, I include also study of the English idiom. Next to teaching English words to foreign children, it is important to keep before them the typical, proper, English way of saying things. The English child from his infancy has had his ear trained to detect the right from the wrong way of saying things but the foreign child has no such perception in the English tongue until it is taught him.

The foreign child has a strong tendency to write and speak English with the idiom of his native tongue. Hence it is very necessary to keep always before him examples of good taste in composition.

One way of doing this is to make the daily grammar lesson consist of a number of simple sentences with easy words written on the black-board to be analysed by the class. The sentences are arranged to tell in a brief, connected way a simple little story. In this way an indirect influence, limited only by the teacher's capacity, can be exerted on the child's mind. These sentences are copied neatly by the pupils and each part of speech which the class knows is marked as follows: bare subject (underlined), bare predicate (double underlined), adjectives (left oblique line), adverb (right oblique line), phrase (parenthesis), clause (square bracket). This method can be extended. An adjective phrase or clause is shown by an adjective mark through the whole phrase or clause as the case may be and the same for an adverb phrase or clause.

The advantages of this method are two-fold. First, the child learns the different parts of speech quickly and easily. Second, it keeps constantly before him good examples of simple composition work and so helps him in that important study at the same time.

Book Reviews

The Preparation of Teachers in Ontario and the United States, by F. A. Jones, B.A., D.Paed., Normal School, Ottawa. Chapter I deals with training institutions in Ontario and gives a brief, but interesting account of early training schools in this Province. The second chapter treats of the rural school problem and the supply of teachers. Chapters III, IV, V and VI compare the Ontario system with the training systems in the United States (New York, Missouri, California) and Chapter VII deals with the preparation of rural school teachers in the United States. Dr. Jones has produced a valuable book; there is, perhaps, no more important problem in connection with our educational system than the proper training of our teachers and this treatise is full of ideas on the subject.

W. J. D.

Fundamentals of Botany, by C. Stuart Gager; published by P. Blakiston's Son & Co. 640 pages. Price \$1.50. This is probably the most important text-book in botany that has been published during the present year. It has many unique features. The illustrations strike one at once as being quite different from those seen in the ordinary text-book; and they are certainly excellent, both the reproductions of photographs and the line drawings. While portraits of scientists have become commonplace in texts in physics and chemistry, as far as the reviewer is aware, this is the first text in botany to follow the same admirable practice. Again, the binding is not in stiff boards but in a flexible limp that the hand likes to hold. While the contents of the volume are arranged somewhat differently from most texts, the teacher will find the material he requires presented in a very attractive manner. This book can be highly recommended to all teachers in Canada.

G. A. C.

Coriolanus (The Granta Shakespeare). Price 1s. net. Cambridge University Press, London. J. M. Dent & Sons, Toronto. This is a text of very convenient size and very large, clear type. There are 22 pages of introduction, 16 pages of notes, and 10 pages of glossary. Teachers of English should examine the plays in this excellent series.

Spelling

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SPELLING is either written or oral. Oral spelling is important in so far as it aids in securing correct pronunciation. The written word is the practical form.

Spelling is largely a question of writing. In spoken language spelling has no place. The necessity for spelling arose when the language became standardized by writing. The inference is obvious—spelling and writing should ever go hand in hand.

To be able to spell means that one can recall the correct form orally or transmit in correct order to paper the letters which compose the words that we employ to express a thought. While oral spelling undoubtedly has a place, our concern is with the written form.

In order to reduce any word to writing in its generally accepted form, one must have a correct mental image of that word. These mental images may be visual, auditory or motor. In some pupils the visual image may be most marked; some may depend largely upon the auditory image, while others again rely chiefly on the motor image.

Although these three distinct forms of mental images are recognized, it must not, however, be thought that a hard and fast line of classification can be drawn and that pupils may be definitely arranged as belonging to one or other of these classes. All of us depend more or less for the recall of a word on all three types of images. But it must be conceded that eventually we all develop the motor type most markedly. A little introspection will prove this. How many of us are obliged, when writing, to pause to ask ourselves what form a word should take? The answer to this question in each individual case will be that our writing is automatic. Spelling with us has become a habit developed by the frequency of the reproduction of motor images.

In the teaching of spelling the best results will be obtained if due regard is had to the three types of images. The general plan is as follows:

- (1) The teacher writes the word on the black-board.
- (2) The pupils are asked to examine the word carefully; to focalize it in order to fix the correct visual image.
- (3) The word is then pronounced and spelled orally in order to get the correct auditory image—this may be done in concert, and for variety by individual pupils as well.

(4) And finally the motor image is obtained by the pupils' writing of the word.

While we attach most importance in the final result to the motor image, the importance of the other images must not be disregarded. They serve sometimes to prove that the written form is faulty and so may be used as a check to verify the correctness of the motor image.

At this point a word of caution to the teacher who is just beginning.

It is a serious mistake, one not generally recognized and one to be sedulously avoided to assign a spelling lesson to young pupils from a printed page. The difference between the printed form and the written form is so great that the visual image of the word is blurred. Moreover, the dictation lesson has little or no connection with the printed form. The pupil employs the written form to give proof of his ability to spell, and if the preparation of the spelling lesson is made from the form which the pupil will subsequently use when he comes to write from dictation, it is quite evident that the results will prove more highly satisfactory.

With the younger pupils, memory plays a very important part in spelling. Memory is sometimes defined as a reinstatement of an old experience; or a present consciousness of an old experience with the knowledge that it is old. Any good work on psychology will tell you that memory is a process and that there are four phases of the memory process—learning, retention, recall, and recognition. The interdependence of these four phases may be thus briefly shown. Learning without retention is inconceivable. Recall is the proof of retention and it is quite clear that recall without recognition would be valueless.

Learning is the process of forming associations. In spelling the first associations formed are between the letters and their relative places in the word. The learning of these associations depends directly upon the number of repetitions, but care should be taken not to accumulate the repetitions. The most satisfactory results are obtained by distributing the repetitions over several short periods. The rate of the repetitions is also an important factor. They should be as rapid as is convenient for the learner, in order to prevent a waste of time and to avoid distraction.

Retention depends upon the intensity of the impression. The degree of concentration given to the learning will determine the persistency of the impression. It must, however, be borne in mind that retention is affected by mental activity of any sort. Therefore, after learning there should be a short period of rest. Time must be given for the "fixing" of the new associations. It is thought by some that this accounts for the fact that distributed repetitions are more effective than accumulated ones.

Recall, too, depends upon association. Everything that is learned must be learned in connection with something else. There is no such thing as an isolated idea. Every idea that we have has been connected at some time with a great many other ideas. The selection of any one of these associate ideas will recall the others. All recall is due to the simple fact that ideas that are in consciousness together, tend to return together. If, then, the proper associations between the letters of the words have been formed, the correct recall is inevitable.

Recognition is simply the awareness that the aroused associates have been recalled in their proper order, and in the reproduction of the word this awareness is accompanied by the excitation of familiar movements either oral or graphic.

From the foregoing it is evident that the greater the number of associations that can be formed in connection with every word, the greater the surety of recall. One of the most important associations that can be formed with any word is its meaning. It is useless and a waste of valuable time to ask children to learn to spell lists of words which to them are meaningless. It is equally valueless to employ in a spelling lesson any but words of common use or those likely to be used by children.

While memory is important in the earlier stages of spelling the time must come when if the spelling is to be properly effective it must be done automatically. In the ordinary dictation lesson the mind is concerned chiefly with the form of the word. There is no thought of the content of the matter that is being written. When, however, the conditions are reversed and the pupil is concentrating upon the content rather than upon the form, frequent mistakes in spelling occur unless he is capable of writing the words without thinking of their form. The dictation lesson cannot be regarded as a satisfactory test of a pupil's ability to spell. The true test is the absence of mistakes in all the written work in which he has to concentrate upon the subject matter. Spelling must be automatic, it must become a habit, and this can best be accomplished by frequent written repetitions accompanied by concentration and conscious effort.

Tommy: "I wonder why the words is spelled in such a funny way?" Jimmy: "Cause they was made in the first place by the teachers, and they made 'em so's they would have to be hired to teach how to spell 'em."

"What is the meaning of 'alter ego'?" asked the teacher of the beginners' class in Latin. "It means the 'other I,'" responded a pupil. "Give me a sentence containing the phrase". "He winked his alter ego".

Co-operation

How can the Normal School Staffs and the Public and Separate School Inspectors
Co-Operate in a More Useful Way than at Present ?

C. B. EDWARDS, B.A.

Inspector of Public Schools, London

[An address delivered to the Supervising and Training Department of the Ontario Educational Association, April 12th, 1917.]

IN spite of all I can do to prevent it one word aggressively, and persistently, steps out of its place in the title of this paper and places itself squarely across the path that one wishes to take in discussing the subject. That word is "CO-OPERATE".

Co-operation demands intelligence, imagination, foresight, and self-denial.

Big Business has long ago discovered a virtue in co-operation and has reduced it to a successful science.

The great corporations have gone to school, not in a little "Red School House", but in costly laboratories in which the teachers are high salaried experts in science, finance, and business practice.

Huge sums are spent in experiments to determine what is best in business.

Governments are following in the path blazed by the corporations and are establishing scientific schools, which are organized and administered by the picked men who form the commissions, to investigate and to report as to the best methods of carrying out some problem of national importance, whether of agriculture, manufacturing or trade.

By far the most splendid example of co-operation accomplished by the British race has been witnessed since the memorable 4th of August, 1914, but it was undertaken under the compulsion of fear of national destruction and cost hundreds of thousands of lives and billions of dollars that would have been saved had there been the same preparation for the avalanche of war that France had wisely provided. I think it can justly be said that an ounce of timely and intelligent co-operation is worth a ton of watchful waiting and useless wrangling.

For centuries John Bull has been depicted as a burly fellow, obstinate, hot-tempered, and self-opinionated. A gentler civilization has toned down these rugged terms and now the typical Britisher, whether living in the Homeland, or in one of the numerous Overseas Dominions, is pleased to designate himself as being an individualist which, being interpreted, means that he has an opinion of his own and intends, if possible, to carry it out no matter what the consequences may be.

In opposition to this tendency is a state of affairs in which men agree to submerge some of their individual longings and to work with others for the common good. This may fairly be termed co-operation. All organized human society is based upon this principle.

May it not be fairly said that the true test of a person's education is his ability to work harmoniously with others?

I am convinced that, could the cordial co-operation of the Normal School staffs, the School Inspectors, and the High School teachers, be *secured* and *utilized*, there would be created a force in education that would result in (1) clear and definite ideas as to the true aims of elementary and secondary education, (2) an increase in the effectiveness of the teaching force, and (3) the outlining of courses of study which would contain a maximum of "living wood" and a minimum of "dead wood".

Unity of action among the educational forces just mentioned can only be secured by the determination of each individual concerned to keep an open mind with respect to the recorded experience of men whose work in education entitles their opinions to attention, and to the results obtained by the educational experiments conducted by men like Professor Dewey, Edward L. Thorndike, Professor C. H. Judd, and many others, whose lives are being devoted to educational research and investigation.

Opinions founded upon individual preference or prejudice must give way to methods which are the result of the united experience and tested experiments of acknowledged educational leaders.

The Aim of Public School Education

Reduced to its lowest terms, the most that can be reasonably expected from our Public Schools is that they will enable the pupils attending them to obtain a mastery of the tools of education—language and the ability to use it in speech and writing, the fundamental operations in elementary mathematics, including the four simple rules, vulgar and decimal fractions, useful tables of weights and measures, simple percentage, and problems that come well within the scope of the pupil's development and economic environment; and the simple elements of science taught in such a way that the knowledge thus gained will be useful when the study is deepened and broadened in the secondary and college education.

In addition to these formal studies the instinctive desire of the child for motor activity should be gratified by furnishing boys and girls with hand work suitable to their development and sex. The typical activities embrace weaving, cutting, drawing in pencil and colour, sewing, cooking, and woodwork.

The modern school must enlarge its interest in the strongest natural inclination of the child which we call the play-spirit and which is acknow-

ledged to be the greatest educational factor for children up to the age of ten.

There remains another aspect of education which is frequently omitted in considering the work of the school, viz.: the habits that the child forms by imitating others in his social group, organizing his modes of behaviour, using ideas, and reaching conclusions therefrom; in a word this may be termed "Social Education", which includes right conduct towards one's self and others—in short, moral behaviour.

Reform of Curriculum and Teaching Practice What is needed is a Statute of Mortmain for educational practice that will remove the "dead hand" of tradition and custom that for centuries has chilled the natural spontaneity and initiative of the child and instead has attempted to "mould" him according to the ideas of those who have but little real insight into the natural way young people get their mental growth.

Children at home and on the playground are natural and active, are in fact equipped by Nature with "self-starters", but in many classrooms their little motors appear to be stalled and the teacher deems it his duty to "crank" each one separately, a task that wears out and wastes his energy while the children lose the educative influence of willing effort.

There are, however, many classrooms that are as ideal as can be hoped for, but I am afraid they constitute the minority rather than the majority.

Teacher Training The machinery for training teachers in Ontario is too well known to need explanation, and the writer has no intention of uttering one word of adverse criticism. The staffs of the Faculties of Education, the Normal, and Model Schools are picked men and represent the best teaching ability in the Province. May one offer some propositions as to the aims in teacher training that might properly be considered by the Training, Inspectoral, and High School Departments?

In judging teachers it might be decided to adopt some general scheme of classification such as, for example, the following: First, those whose *personality* is inspiring, pleasing and moral. There is no doubt that it is the personality of the teacher that weighs most with the class.

Skill in teaching, natural and acquired, might be placed second. Speaking of the natural born teacher, the best example in literature that I can give is the immortal Tom Sawyer.

I cannot quite understand why educational authorities have not long ago prescribed that chapter in Tom Sawyer which describes how Tom "permitted" his playmates to whitewash the fence as part of the curriculum of every Faculty of Education and Normal School.

As to the ability in teaching that is acquired we must remember that "Art is long". Time and patience must be allowed for development.

Scholarship is ranked third in the list but of course this may cause discussion.

It must not be forgotten that education is different from instruction. One is permanent, the other may be ephemeral.

If the school history of those who seek admission to the teaching profession could be studied, might it not be a guide to those into whose hands falls the problem of admitting them, in advising them for or against entering upon teaching as their life work?

Again as to the actual training given or attempted to be given in our institutions for teacher-training, may it not be possible that too much is attempted and that there is an effort to make a final job of what must be of necessity a life-long process of learning?

Would it not be better to leave the more academic subjects like the history of education and even some parts of the science of education for subsequent study by the teachers? Summer schools are suggested as a possible means of keeping alive professional interest.

The National Educational Association has declared in its platform its belief "that it is a sound educational principle, that whenever a teacher is at work or a child is in school, be it in a city, town or country district, both teacher and child should have the benefit of close personal and professional supervision".

The importance of strong Superintending (Inspectoral) and Training departments in a system of education is generally recognized.

The Department of Superintendence is conceded to be the most influential factor in the N.E.A. of the United States. Its meetings are held during the last week in February each year and are attended by all the prominent educators in the United States and a considerable number of Canadian teachers.

Those who have had the good fortune to attend this convention must be impressed by the enthusiasm of the meetings, the eminence of those who address the different sections, and the cordial co-operation of educators representing every department of education. Especially striking to an Ontario teacher is the keen interest in elementary education.

It is not uncommon to hear Professor C. H. Judd, W. C. Bagley, Professor G. D. Stroyer and other eminent men, deliver carefully prepared addresses on elementary schools.

The leaders of educational affairs from every part of the United States can, almost without exception, be found in attendance at the annual meetings of the department of superintendence.

From this department have emanated, I think, some famous reports, like that of the Committee of Ten, the Committee of Fifteen, and the Committee of Twelve, which have had a wide and deep influence on educational administration in every state of the Union.

The National Bureau of Education is always well represented by the Commissioner and some of his assistants, and wields a great influence by the sheer ability of its representatives, not by any red tape, basted up by legal authority.

This is a striking example of what can be done by a Department of Education which appeals to the intelligence of a great democracy for the support of all branches of Public Education.

May we not hope for (1) A Canadian Educational Association, (2) A Canadian Commissioner of Education, and (3) A Supervising and Training Department that will consist of those whose ability and achievements entitle them to rank as worthy leaders in the noble work of directing the training and education of Canada's future citizens?

MR. BROADFACE AND MR. LONGFACE.

Down the street comes Mr. Broadface,
Smiling like the summer sun;
Nods so bright to all around him;
Greets the boys with eyes of fun.
E'en the dogs seem glad to see him;
Wag their tails in canine glee:
All the street is full of sunshine,
When is passing Mr. B.

Right behind comes Mr. Longface,
Looking like a thunder-cloud;
Greets no one, unless to grumble;
Gets no smile from all the crowd.
People call him proud and stingy;
Say he must live in a cell,
And the air grows chilly, gloomy,
When is passing Mr. L.

Mr. B. so kind and loving;
Mr. L. with cares oppressed,
I can tell without much trouble
Which of them you all like best.

—DONALD A. FRASER, Victoria, B.C.

It was the recreation hour at school.

"Tommy" said the teacher pleasantly, "do you know, 'How Doth the Little Busy Bee'?"

"No, ma'am," said Tommy. "But you betcher life I know he doth it."

The Teacher and the Community

DOROTHY CAMPBELL

West Hill, Ontario

OF the hundreds of teachers in the world, how many really know what their object in teaching is? Ten teachers were once interviewed individually, and asked to state frankly what their object in teaching was. Five stated that they taught to earn a living; three declared that there was no other door open, so they entered that; one acknowledged that she expected to marry some day and thought that teaching would answer as well as anything for the interim; and the tenth, with glowing eyes, explained that it was a rare privilege to give her time and labour and love, ten months of every year, to lead a hundred or so boys and girls over that part of their journey toward a strong, intelligent, well-balanced manhood and womanhood. She alone had the vision! She was surely worthy of her hire.

Nothing can be accomplished unless friendly relations are established between the parents and the teacher. There are two ways in which the co-operation of the home can be secured. The personal call made by the teacher at each home has first place. One teacher tells her experience of an afternoon call in the home of a boy whom she found half-stubborn, nervous and uninteresting. The butter from the noon dinner stood melting and collecting dust in the August heat in the midst of an uncleared table. The robust mother hurried from the back yard to greet her visitor; a last year's almanac was all the reading in sight; the younger child dodged an expected blow when the mother turned toward him with a company smile. Poor little boy! He was no longer the stupid child she had judged him. She now understood!

The second way in which friendly relations must be established is to have a Mothers' and Teacher's Club. Wherever there are mothers you will find mother-love and the spirit of self-sacrifice. Whether they be trained or not, they want their children to reach a higher rung of the ladder than they themselves have reached. The teacher has an opportunity of pointing out in these meetings the help it would be to her to have children sent to school physically fit, to have regular attendance, and to have the dignity and the authority of the school upheld. Home co-operation may be found if the teacher works for it. It will not be added work in the end for it is easier to do work with intelligent help than without it.

A teacher has many opportunities to set higher and better ideals of living before the community. What the teacher says and does are matters of universal interest. The fact that Miss Brown sleeps with her window open even in the coldest weather may need explanation—possibly justification. The habit Mr. Reed has of neatly turning the clothing of his bed over the foot board and setting the pillows to air will give him a new dignity in the eyes of the neighbourhood mothers, and every small boy and girl in the district will be urged to cultivate the same orderly habit. If Miss Waters enjoys her quick, cool, sponge bath every morning and is particular about the airing and pressing of her gowns, the young ladies will at once connect these customs with her clear fresh skin and immaculate appearance. If she can do these things, so can they. Then the teacher's kindly manner of speech and her reluctance to condemn soften the criticisms which people so freely make. She rises instinctively when older people enter a room and remains standing until they are seated. She explains to her pupils at school that true politeness is simply consideration for others. The influence of such an example is not trifling—lives are sweetened and characters made stronger. The stamp of educational approval is placed upon the refinements of life.

A teacher has a fine opportunity to encourage a spirit of pride in the schoolroom and grounds. Suppose the blackboard is cracked, the dictionary minus its A's and Z's, the play-ground a mud hole in wet weather. Every defect spells Opportunity with a capital O. The teacher must go to the trustees and request such repairs as are necessary for good teaching results—good blackboards, maps, reference books, etc. Let her ask them smilingly if it would pay to hire a skilled carpenter, and then give him nicked, dull tools with which to work on a new home. Are not children more important than houses? Then the women of the local Institute or Ladies' Aid society will welcome the teacher as a member, and when she asks their co-operation in her desire to re-decorate the walls in soft, buff kalsomine in place of the present, badly-soiled, ugly, green colour, they will be delighted, and a new interest in school life will be awakened.

The teacher's opportunities in a community are unlimited and in helping others a teacher is absolutely certain to help herself—more perhaps than she realizes at the time.

"Bobby," inquired the mother, "did you wash your face before the music teacher came?" "Yes'm." "And your hands?" "Yes'm." "And your ears?" "Well, ma," said Bobby judicially, "I washed the one that would be next to her."

Hints for the Library

The Theory of Evolution, by William Berryman Scott; New York. The Macmillan Company, 1917. vii+183. Price \$1.00. In this volume the six Westbrook lectures of 1914 are published. The titles are: (1) Present Status of the Question; (2) Evidences for the Theory—Classification, Domestication and Comparative Anatomy; (3) Evidence from Embryology and Blood Tests; (4) Evidence from Palaeontology; (5) Evidence from Geographical Distribution; (6) Evidence from Experiment. Conclusion. The lectures were delivered before lay audiences, hence the wording had to be as non-technical as possible. Dr. Scott performed his task well. The deeper student of the problem will, as Dr. Scott says, have to seek elsewhere for additional evidence. The main thesis of the work is that the evolutionary theory as propounded by Darwin and others is practically universally accepted by scientific men. The alternatives to the theory are either that of special creations or a frank recognition that nothing can be known about the subject. What the public is confused about is the disagreement among scientific men as to the manner in which evolution works or has occurred. The author dispassionately reviews the evidence upon which the theory is founded. The evidence from blood tests although accumulated within the last thirteen years will be new to many readers. For the person who wants a handy conspectus of the whole subject the book can be heartily recommended. P. S.

Standard Method of Testing Juvenile Mentality by the Binet-Simon Scale, by Norbert J. Melville, Philadelphia. Price, \$2.00. J. B. Lippincott Company, 1917. Pp. xi+140. The results of many so-called scientific tests of mentality are vitiated by the non-scientific way of administering them. Constant conditions must be maintained or the results will be valueless. In this work Dr. Melville has recorded the results of his experiences with the Binet tests and has worked out a detailed method of procedure which should prove invaluable to workers in the field of subnormal children. Certain it is that if these plans were carried out results wherever obtained could be compared. Such a comparison is impossible at the present time. The work was urgently needed. It is the most convenient manual that the present reviewer has yet encountered. P. S.

Language Exercises, by Clara E. Grant. 59 pages. Price 1s. 6d. net. Evans Bros., London. This little book presents to teachers a complete course preparatory to reading. In the final analysis it is a suggestive work on oral phonics. The method sharpens auditory perception, develops sensitiveness for correct sound, and through coherent little "chats", songs, and rhymes, furnishes the child with a good apperceptive auditory stock of words. The distinctive feature of the method lies in the fact that appreciation of sound-values is not given through oral analysis but by rational repetition of words in which the special sound is always taken as an initial. In classes where letters are taught with their sounds the corresponding letter would be shown and related to its sound, but these exercises are complete without letters. A strong element in the organization of this method is that the literary content through which the "area of sounds" is covered provides also a fruitful source of material for illustrating correct language forms, increasing the child's vocabulary and establishing the habit of correct speech. It must be admitted that in this series of lessons there is no scientific gradation of vowel values, but as the lesson on each sound is a complete whole the exercises may be used in connection with any graded series of phonic lessons. Young teachers will find this book an excellent aid; experienced teachers will find it very suggestive; all teachers should use it as a convenient reference and source book. I. R.

Notes and News

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

The degree of Doctor of Pedagogy (D.Paed.) has been conferred by Queen's University on F. A. Jones, B.A., of the staff of Ottawa Normal School.

Robert Wright, B.A., Principal of Leamington High School, has been appointed Inspector of Public Schools for South Grey.

John A. Bannister, B.A., Principal of Chesley High School, has been appointed Inspector of Public Schools for Timiskaming District.

J. M. Bennett, B.A., Principal of St. Mary's Separate School, Hamilton, has accepted an appointment as Inspector of Separate Schools.

John C. Walsh, B.A., Principal of Rockland High School, was recently appointed an Inspector of English-French Schools.

Summer Model Schools were held in Ontario this year at the following places: Bracebridge, J. W. Plewes, Principal; Gore Bay, D. M. Eagle, Principal; Madoc, R. A. A. McConnell, Principal; Ottawa, C. H. Edwards, Principal; Port Arthur, D. Young, Principal; Sharbot Lake, John Hartley, Principal; Sturgeon Falls, J. M. Kaine, Principal.

F. E. Perney, B.A., B.Paed., Principal of Glashan Public School, Ottawa, has been appointed to the staff of Hamilton Normal School.

Miss Edith V. Phillips, B.A., of the staff of the Normal Model School, has accepted the appointment of Dean of Women in Regina College.

W. J. Lougheed, M.A., of Jarvis Collegiate Institute, has been appointed to the Department of Mathematics in the University of Toronto Schools; W. H. Williams, M.A., of Kitchener Collegiate Institute, to the Department of English and Moderns and G. A. Ballantyne, B.A., of the Faculty of Education class of 1916-17, Toronto, is appointed temporarily to the Department of Physics.

C. L. Brown, M.A., who was acting as substitute in the University of Toronto Schools for Captain Cline, has accepted the principalship of Wingham High School.

Robert Gatis, recently Principal of Nipigon Public School, has been appointed Principal of Southampton Public School.

W. J. Stevenson who has been Principal of the Indian Head Public School for the past eleven years has been appointed Inspector of Schools for Oxbow district, Saskatchewan. He graduated from the Ontario Normal College in 1898 and for several years before going West was Principal of the Country Model School at Minden.

A number of teachers will be interested in the following letter:

Head Office,
77 King St. East,

Toronto, May 17th, 1917.

R. A. Gray, Esq.,
Principal, Oakwood Collegiate,
St. Clair Avenue,
Toronto, Ontario.

RE AMBULANCE NUMBER 9240.

Dear Sir:

Re above, which was donated by your Institute, I am pleased to state that in a report just received from France this Ambulance has, for the period from the first to the thirty-first of March, carried 520 lying cases and 75 sitting cases.

Trusting this report will be satisfactory to you,

Yours faithfully,

(Signed) NOEL MARSHALL,

Chairman, Executive Committee.

Peter MacKichan, B.A., who has been teaching in Chesley, has accepted the appointment of Principal of Petrolea High School.

Miss E. M. Somerville is now Principal of Creemore Continuation School.

Miss Alice Pepper, formerly of Brigden, is teacher of the Primary Department in Forest Public School.

H. E. Snyder, B.A., formerly Principal of Wilkie Public and High Schools, has enlisted with the Royal Flying Corps.

H. N. Sheppard, who has been on the staff of Morse St. Public School, Toronto, has enlisted with the Army Medical Corps.

Ernest W. Dalton of the class of 1915-16 in the Faculty of Education, Toronto, is teaching at R.R. No. 1, Vienna.

Miss Agnes M. Flary is teaching at Fulda, Sask.

J. T. Cuyler is now Principal of Connaught Public School, Medicine Hat.

Miss E. Watt is teaching at Imperial, Sask.

The McGill School of Physical Education has just finished its seventh session. The past year was the beginning of a new era in the history of the School, for it was the first of the full one-year course. Hitherto the training has consisted of three short sessions in consecutive years, but this year the students devoted all their time to their work, and the

(Continued on page 70).

GOOD PICTURES FOR SCHOOL DECORATION AND STUDY

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| 4657 | The Laughing Cavalier! | - - - - - | Hals |
| 4611 | The Light of the World | - - - - - | Hunt |
| 2968 | Return to the Farm | - - - - - | Troyon |
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| 2981 | Shepherdess and Sheep | - - - - - | Lerolle |
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Committee records the most successful session the School has ever had. This is made possible by the co-operation of the Royal Victoria College, the Protestant Board of School Commissioners, the Montreal Amateur Athletic Association and the Ladies' Benevolent Institution. The session has been notable in other ways: specially in the transfer of the practical work to the fine gymnasium of the M.A.A.A. The students did excellent work, as was proved at the highly successful demonstration. The chief result will be seen in the improved physical training and general well-being of large numbers of Canadian children. The next step that the School looks forward to is the extension of its diploma course to two years, as is required in the best schools abroad. *Chairman of Committee.*

Up to the time of going to press the following news of the class of 1916-17 in the Faculty of Education, Toronto, has been received: Miss Louise Jolley is teaching at Feversham; Miss Lillian O. Steele at Cedarville; Miss Olive C. Brand at R.R. No. 2, Port Rowan; Miss Lois I. Bartlett is teaching Third Book Classes in Belleville Public School; Miss Marjorie L. Dunlop is teaching the Second Book Classes in Harrow Public School; Miss Margaret B. Swallow is Assistant in Stayner Continuation School; Oliver Parkinson is Principal of Kemptville Public School; E. I. Gale, M.A., has been appointed to the senior post in Dawson City High School, Yukon Territory.

R. C. Lemon, B.A., has been appointed teacher of history in St. Mary's Collegiate Institute.

Miss Marjorie L. Harrington has accepted a position on the staff of Stirling High School.

Miss Anna A. F. Dunlop, formerly of Oil Springs, is in charge of the Primary Department in Harrow Public School.

At Queen's University, Kingston, besides the regular summer courses for a degree in Arts which are always taken advantage of by a large number of teachers, there were courses leading to degrees in Pedagogy (B.Paed. and D.Paed.). These were in charge of Dean Coleman and Professor W. E. Macpherson of the Faculty of Education, Queen's University, and were well attended.

On another page of this issue appears an announcement that will interest a number of teachers. The publishing firm of Longmans, Green & Company, London and New York, have appointed Oxford University Press, Toronto, as their Canadian Agents.

The Summer Courses in Toronto this year were under the supervision of Professor H. J. Crawford of the Faculty of Education, University of Toronto. The instructors in the various courses were as follows:

Continued on page 72

The
LEWIS STORY METHOD
 of Teaching
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ALBERTA

A. E. Torrie, B.A., formerly Principal of the Practice School in Calgary, has been appointed Inspector of Schools. He is being succeeded by Mr. C. E. Richards of the staff of Oliver Public School, Edmonton.

J. W. Ford, B.A., who has been Principal of Schools in Vegreville becomes the Principal of the High School in Camrose.

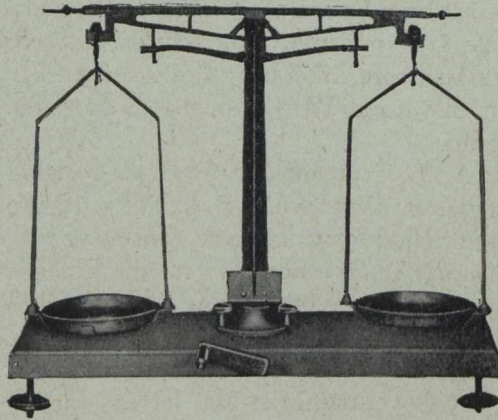
A. H. Carr, formerly Principal of the Garbutt Business College, Calgary, has been appointed to the staff of the Calgary Collegiate Institute as Commercial teacher, duties to commence at the beginning of next term.

Miss M. H. McBeath, B.A., Principal of Alexandra School, Calgary, resigned at the close of last term, as she is giving up teaching to be married.

H. L. Sharples, B.A., of Leduc has accepted a position on the staff of the Lethbridge High School.

G. Fred McNally, M.A., Principal of the Normal School in Camrose, spent July and August in attendance at Teachers' College, New York.

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Inspector W. A. Stickle has been appointed to the staff of the Camrose Normal School to succeed C. Sansom, B.A., who has been transferred to the Normal School in Calgary.

R. H. Roberts, B.A., formerly of the staff of the Calgary Normal School was appointed Inspector of Schools in May. He has assumed charge of the Vermillion Inspectorate.

M. J. Edwards, vice-Principal of Connaught School in Calgary, has been appointed Principal of Alexandra School to succeed Miss McBeath. Mr. Edwards was in Toronto during the vacation undergoing an examination for entrance to the Royal Flying Corps, but for medical reasons was not admitted.

Owen Williams, B.A., goes from Ponoka to take charge of the Claresholm schools.

Walter S. Webb, of Claresholm, has been appointed Vice-Principal of Haultain Public School, Calgary.

Miss M. A. Stewart of the staff of the Camrose Normal School studied during the spring and summer at the University of Chicago.

T. J. Dwyer, B.A., has received the appointment of Inspector of Schools for the newly-formed Rocky Mountain Inspectorate.

R. L. Harvey, who has had charge of the School at Munson, is the new vice-Principal of Ramsay Public School, Calgary.

C. Hicks, B.A., of the staff of the Victoria High School, Edmonton, has been appointed Inspector of Schools.

A number of Calgary teachers including Miss Z. M. Lathwell, Miss E. G. Harrop, Miss F. S. Bennett, Miss A. I. Bruce, Miss F. M. Greer, Miss F. E. Maus, Miss M. Hunt, and Miss F. L. Stubbs spent their vacation helping to harvest the fruit crop in British Columbia.

The following committees have been appointed by the Minister of Education for Alberta to report on the Course of Study and to suggest such improvements as seem to them desirable: *Science*: W. G. Carpenter, J. E. Hodgson, J. H. Hutchinson, J. R. Tuck, C. A. Curtis, J. A. Fife. *History*: G. W. Gorman, R. H. Roberts, G. A. McKee, M. H. Long. *Arithmetic*: J. A. Smith, Dr. A. M. Scott, T. E. A. Stanley, A. E. Torrie, Rev. Father McDonald. *Geography*: J. H. Hutchinson, W. C. Sandercock, A. J. Park, J. W. Russell. *Music*: C. Sansom, J. A. Smith, N. Eagleson, V. Barford, V. A. Bermger. *Art*: L. E. Pearson, A. E. Hutton, R. H. Headley. *Commercial*: A. J. Park, J. P. Page, G. Cromie.

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Continued on page 76

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R. H. Wetmore, who was Principal of Parrsboro schools last year, has been appointed to a position on the Colchester County Academy Staff.

Miss Helena H. Withrow is the new Principal of Middleton, Schools. R. L. Jeffery, the former Principal at Middleton, is now house-master at Acacia Villa Boys' School.

E. C. Allen has been appointed Instructor in Chemistry at the Provincial Normal College in place of J. M. Scott, who goes to High River, Alberta.

Principal F. G. Morehouse, Amherst, has been teaching at a Summer School in Newfoundland during vacation.

J. L. Trask, Sydney, is the new Principal at Kentville.

Miss Ruby Wood, Annapolis Royal, will teach the natural history subjects in a group of eight rural schools this year. This is our first attempt to carry rural science to the rural schools by a specialist instead of depending on the already over-worked regular teacher.

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Sessions of the Provincial Normal School for the training of teachers for First and Second Class Certificates will open at Regina and Saskatoon on August 21, 1917, and continue until December 21.

Third Class Sessions will open at Regina and Saskatoon on October 16, continuing until December 21. The Third classes will be limited to 50 at each point and applications will be considered in the order in which they are received at the Department.

Additional Third Class Sessions will be held at local centres, which will be announced later, beginning on November 15 and continuing for ten weeks. This will allow the students to take charge of schools opening on February 1.

Graduates in Arts from Canadian or other British Universities and persons holding Ontario Faculty Entrance standing will be entitled to admission to the First Class Session provided they have reached the prescribed age, namely, nineteen years in the case of males and eighteen years in the case of females.

For admission to the Second Class Session applicants must hold at least Ontario Normal Entrance standing. The age requirement is the same as that for First Class.

For admission to the Third Class Session applicants must hold at least Ontario Model Entrance standing and be at least eighteen years in the case of males and seventeen years in the case of females.

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Hints for the Library

Canadian Birds Worth Knowing, by Neltje Blanchan. 253 pages; 48 illustrations in colour. Price \$1.60. The Musson Book Co., Toronto. This is in appearance a most attractive volume and the contents do not at all belie the exterior. The title may be somewhat misleading in as far as the first word of it is concerned because the birds described belong as much to the United States as to Canada and most of the records have been taken from U.S. Government reports. However, this does not detract to any appreciable extent from the value of the book. The author has given excellent descriptions of all the common birds of the North American Continent and the illustrations are exceptionally good. His classification of birds as, "Two Rascally Relatives", "Carpenters in Feathers", "Mourner", "Martyr", "Whistler" and "Drummer" are striking and unique; this method adds the human interest so necessary to arouse the enthusiasm of children and to fix the information in their memories. The book will make a valuable addition to any school library and should be of great assistance in nature study lessons.

J. A. I.

Canadian Trees Worth Knowing, by Julia E. Rogers. *Canadian Flowers Worth Knowing*, by Neltje Blanchan and A. D. Dickinson. *Canadian Butterflies Worth Knowing*, by Clarence M. Weed. These are published by the Musson Book Company, Toronto. Each contains about 250 pages, and the price of each is \$1.60. Having already written at some length on *Canadian Birds Worth Knowing*, one of the same series, not much remains for the present reviewer to say regarding the others. These are excellent books and particularly attractive in appearance. The method of treatment is in every case such that a special appeal is made to the interests of the children and every teacher knows how valuable this is. The teacher of nature study will find an immense amount of useful material in these books. The illustrations are clear; the subject matter has been written by authors who have made a most thorough study of their subject. If these books are placed in the school library, the children will not need to be urged to read them in their spare time. They will do so of their own choice and will spend a good deal of time studying the pictures of birds, butterflies, trees, and flowers.

J. A. I.

How to Make Friends With Birds, by Niel Morrow Ladd. 228 pages, with 200 illustrations. Price \$1.00. Published by The Musson Book Company, Limited, Toronto. This pocket edition contains many useful hints on the making of bird houses and other things which will attract birds.

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The Bird Study Book, by T. Gilbert Pearson. 258 pages containing 45 illustrations. Price \$1.25. Published by The Musson Book Company, Limited, Toronto. This book deals entirely with the birds of the United States. The laws quoted are those of the United States. What is needed is a book describing our own Canadian birds. The book gives much general information which is interesting but which, if given about our own birds, would be a greater benefit to teachers in Canada.

J. A. I.

Algebra—Theoretical and Applied, including trigonometry and an introduction to the calculus by A. H. Bell. Blackie & Son, London. 354 pp. This excellent text is intended for the use of students in secondary and technical schools. It would appear to be particularly useful for students who will not have the opportunity of attending a university but who will wish to engage in technical work on leaving school. Academic treatment has been avoided as far as possible and attention has been chiefly directed to practical applications. Canadian teachers would find it useful for the large number of examples given, many of them being new and suggestive.

J. T. C.

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THERE are few national institutions of more value and interest to the country than the Royal Military College of Canada. Notwithstanding this, its object and the work it is accomplishing are not sufficiently understood by the general public.

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The Commandant and military instructors are all officers on the active list of the Imperial army, lent for the purpose, and there is in addition a complete staff of professors for the civil subjects which form such an important part of the College course. Medical attendance is also provided.

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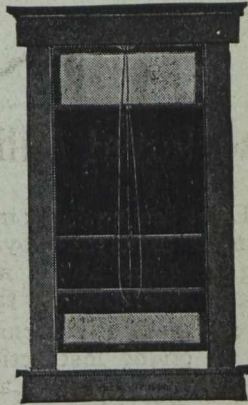
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