



"ALL HANDS TO THE PUMPS".

By Henry Scott Tuke, A.R.A.

One of the list of pictures suggested for study for this month.

In the Tate Gallery, London.

(See note in this issue).

FOREWORD.

*But thou wouldst not alone
Be saved, my father! alone
Conquer and come to thy goal,
Leaving the rest in the wild.
We were weary, and we
Fearful, and we in our march
Fain to drop down and to die.
Still thou turnedst, and still
Beckonedst the trembler, and still
Gavest the weary thy hand.
If, in the paths of the world,
Stones might have wounded thy feet,
Toil or dejection have tried
Thy spirit, of that we saw
Nothing: to us thou wast still
Cheerful, and helpful, and firm!
Therefore to thee it was given
Many to save with thyself;
And, at the end of the day,
O faithful shepherd! to come,
Bringing thy sheep in thy hand.*

Matthew Arnold's description of
Dr. Arnold in *Rugby Chapel*.

The School

"Recti cultus pectora roborant"

Editorial Notes

The Teacher and the War.—An incident at Harbord Street Collegiate Institute, Toronto, early in September last, turned the public's attention to the relation of the school to the war. The public then made it very clear, so clear that no school dare misunderstand, that the school has special rights and duties in the matter of the war. The Department of Education of Ontario, as was pointed out in *THE SCHOOL* of January, has now put those rights and duties into the school law.

Many difficulties, no doubt, will attend the performance of its duties by the school. Public feeling is tense. A harmless word or act may provoke an outburst. A Toronto lecturer thought that the defeat of Germany must come through failure of men, not of money or material. He was bluntly told to keep such opinions to himself. Another lecturer expressed the belief that the Kaiser played a bigger part on the European stage than Czar Nicholas or even King George. "Unpatriotic", exclaimed some of the audience. A distinguished citizen now questions the loyalty of a great Canadian University because, forsooth, it once paid homage to Goldwin Smith as the first English publicist of his day! The connecting link between this tense public feeling and the school is the child. The child, it must be remembered, cannot understand this war. He sees only a few things and he sees them dimly. For the rest he trusts to his imagination. This imagination, excited by the natural anxiety of the teacher to weigh and condition his statements, and by the natural desire of the child to interest and startle his hearers, may at any time cause a violent outburst of unfriendly public feeling. Here lies the first great difficulty that attends upon school instruction in the war and its causes. No teacher can afford to approach the subject unconscious of the danger about him.

And there is a second difficulty. Children cannot understand the war. Nor do all adults. Even publicists and statesmen disagree as to its causes. How may schoolmasters hope to teach those causes? And as to the events of the war—they are so near us as to be wholly out of

proportion. We cannot see the woods for trees. Blue books and journals and stately volumes try to enlighten us and succeed in confusing us. We are oppressed by information, and the daily press adds ceaselessly to the pile!

For this second difficulty some relief is in sight. Great publishing houses have gone seriously to work to prepare books on the war for teachers and pupils. Educational authorities throughout Canada will probably make selections from these books for use in school libraries. It is even probable that some Departments of Education will authorize certain books for purchase and use by the children. In the meantime THE SCHOOL calls the attention of its readers to the war books advertised in its columns.

Better Certificates.—Are you interested in the instruction of defective or abnormal children? Do you wish to obtain Model Entrance, Normal Entrance, or Faculty Entrance certificates? Do your professional tastes draw you towards art, or music, or physical culture, or manual training, or household science, or agriculture, or commercial work? Do you hope some day to possess a degree in arts or a degree in pedagogy? If these are your interests and hopes, and if you cannot abandon your schoolroom duties in order to realize them, why not inquire about the free Summer Courses conducted by the Department of Education or the Summer Courses conducted by the Universities of Ontario? Or why not write to this office? It might be well worth your while.

Too Much Teaching.—Vice-Chancellor Sadler of Leeds University calls attention to the danger that lurks in the very thoroughness of the German school. To this thoroughness it is due that "the process of instruction is insistent throughout the whole period of school training". The school is always open, the pupil is always present, and the schoolmaster is always teaching. Persistent instruction leaves the pupil little opportunity for self direction. In fact, says Mr. Sadler, the greater the teacher's skill, and the more majestic his authority, the less vigorous may be the pupil's initiative. In the end he may come to think and act as authority suggests. "Hence (to use a rude word) he is rather gullible. He is prone to swallow the fashionable theory of his time. He is easily swept off his legs by the current of a prevailing doctrine".

There is probably a warning here for us. We teach too much. One of the greatest teachers of High School mathematics in Ontario was a man of few words and little action. He seemed always to be idle in the classroom and yet when most idle he was really most busy!

But there is also encouragement here for us. In our new courses of study we have continued to replace the theoretical by the practical. In

our new methods we have continued to substitute the source-book and the laboratory for the text-book and the lecture. We have been shifting, slowly but steadily shifting, the emphasis from the teacher to the pupil. We have been striving "to protect young minds from the too incessant pressure of methodically organized instruction". And now our justification lies before us in the evils that have befallen Germany.

Earl Roberts' Message.—A few weeks before his death Earl Roberts, at the request of the League of Empire, issued to the children of the Empire his message upon the present war. This message now makes a double appeal. It contains the last words to the schools from a very great man. And it contains compelling words, simple, direct, eloquent and from the heart of a Christian soldier.

The Canadian Branch of the League of Empire has published the message for distribution among the schools. The form of the publication is as beautiful as the thought. No school walls should be without a copy of the message.

Mrs. H. S. Strathy of Queen's Park, Toronto, is the Honorary Secretary of the Canadian League. She will welcome the inquiries of school boards, teachers and pupils.

Mill and Treitschke.—John Stuart Mill is the spiritual father of British, Heinrich von Treitschke of German politicians. For good or evil the Oxford "Greats" Course has been the common training of British parliamentarians. In this course Mill's work "On liberty" is practically a required text. Treitschke's lectures on history and politics were crowded for many years by Junkers, military men and budding politicians. He had a profound influence on German thought, probably greater than Mill had on British, yet a comparison of Mill's *Liberty* and Treitschke's *Politics* will give one a fairer and clearer understanding of the basic differences between the two schools of thought than any other two books we know.

Let us look into the conceptions of the State and the individual as held by the two men. To Treitschke the State is supreme; individuals *qua* individuals count for nothing. The State must organise for war and nothing must stand in the way of the complete fulfilment of this function. A few quotations will make this clear.

"This truth remains: the essence of the State consists in this, that it can suffer no higher power above itself".

"A State cannot possibly bind its will for the future in respect to another State. The State has no higher judge above it, and will therefore conclude all its treaties with that silent reservation."

"The second essential function is to make war."

"One must say in the most decided manner: 'War is the only remedy for ailing nations.'"

"It was Machiavelli who expressed the thought that, when the safety of the State was at stake, the purity of the means employed should not be called in question; if only the State were preserved, every one would subsequently approve of the means. . . . That must not hinder us from declaring joyfully that the gifted Florentine, with all the vast consequence of his thinking, was the first to set in the centre of all politics the great thought 'The State is power.' For that is the truth, and he who is not man enough to look this truth in the face ought to keep his hands off politics."

"We must distinguish between public and private morality . . . Thus every State reserves to itself the right to decide upon its treaty obligations."

"Only in war does a nation become a nation."

"In this case men murder one another who have never harmed one another before, and who perhaps esteem one another highly chivalrous as enemies, that is at the first glance the awfulness of war, but at the same time its greatness also. A man must sacrifice not only his life, but also natural, profoundly justified feelings of the human soul. . . . In this energy and firmness of obedience lies the honour of a soldier."

No wonder that a people sitting at the feet of such a teacher regard international treaties as mere "scraps of paper." No wonder that the individual loses his individuality in the machinery of the state. No wonder that atrocities are justified if the result of the war is victory.

We shall not be surprised to learn that Treitschke also speaks about "The unfortunate idea of an emancipation of women" and offers up the prayer "God preserve us from the English-American Sabbath."

Mill's book "On Liberty", was the result of a whole life of hard thinking. It was his most careful work and gives a conspectus of his whole teaching.

Mill is jealous of the liberty of the individual; the State must allow the greatest freedom of thought and action on the part of its subjects. The principle of liberty he defines as follows:

"That the sole end for which mankind are warranted, individually or collectively, interfering with the liberty of action of any of their number, is self-protection. That the only purpose for which power can be rightfully exercised over any member of a civilised community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot rightfully be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinion of others, to do so would be wise or even right. These are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not

for compelling him, or visiting him with any evil in case he do otherwise. To justify that, the conduct from which it is desired to deter him, must be calculated to produce evil to some one else. The only part of the conduct of any one, for which he is amenable to society, is that which concerns others. In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign."

And so Mill with relentless logic pursues his way. He defends the liberty of thought and discussion, the liberty of the press and defines the limits to the authority of society over the individual. For example, a man is a liberty to get drunk and society has no right to say him nay. Only when his drunkenness causes him to harm society in some way may he be restrained or punished.

Treitschke's theories are the easier to apply in practice; Mill's are extraordinarily difficult, but no sane thinker will hesitate to say which is the more productive of truer strength in the body politic. Treitschke's theories have produced the efficient German army, the efficient social organization of the German state, but they have also produced a ravished Belgium. Mill's theories have led to a voluntary army, to a certain amount of muddling and unpreparedness for war, but they will also lead the British nation "to stick to it to the last." Its members know how great and glorious is the liberty for which they are fighting, and this will surely lead them to victory, even should its cost be another hundred years' war.

Dr. Helen MacMurchy and Auxiliary Classes in Ontario.—

The Boer War awakened England to the knowledge of widespread physical and mental defects among the masses of her population. In 1904 she appointed a Royal Commission to report on the care and control of the feeble-minded and in 1908 she instituted a national system of medical inspection. The report of the commissioners and the returns of the various medical officers for schools show that in England about one per cent of children of school age are feeble-minded or worse. Families of feeble-minded are much larger than those of normal parents. Karl Pearson has shown that 50 per cent of the next generation is being produced by the lowest 25 per cent of the present. The feeble-minded therefore constitutes an acute social problem in England.

How about Ontario? Is she better situated? There are no statistics to guide us, but if she conforms to the percentages found in other parts of the civilised world, there will be at least 3,000 children in her schools whose mentality will never develop beyond that of a normal ten to twelve years old child. These children clog the work of the ordinary schools and get little good from the usual school lessons. They should be removed and placed in special schools.

Last year the Ontario Provincial Government passed an Act which permitted the establishment of auxiliary classes for physical and mental defectives, providing the latter did not fall within the classes known as imbeciles and idiots. This Auxiliary Classes Act has been followed by the usual regulations, and Toronto has availed itself of the Act by deciding to spend \$300,000 on an institution wherein these unfortunates will be taught and housed.

The Department of Education has gone a step further. It has given Dr. Helen MacMurchy the supervision of the education of the feeble-minded within the Province. The choice is a happy one. The diagnosis of the feeble-minded is both a medical and a psychological task. Dr. MacMurchy not only comes of a family of educators, but she has herself taught, and latterly has spent many valuable years on the study of the problem. She takes up her new duties with the good wishes of all teachers.

The increasing complexity of school problems in the United States was illustrated at a recent dinner by Dr. P. P. Claxton, Commissioner of Education. He referred to an incident related by Dr. James Clarke in his reminiscences of Oliver Wendell Holmes. The two were at the time students in Harvard when an argument arose about metaphysics.

"I'll tell you, James," said Holmes, "what I think metaphysics is like. It is like a man splitting a log. When it is done he has two more to split."

The schoolmaster of a small village asked his pupils the following question:

"In a family there are five children, and the mother has only four potatoes to divide between them. She wants to give every child an equal share. What is she going to do?"

Silence reigned while everybody thought hard. Suddenly a small boy stood up and gave the following answer:

"Please, sir, mash the potatoes."

Miss Primer—"After all, the modern public school is a mere machine."

Mr. Trustee—"Well, and what part of the machine do you call me?"

Miss Primer—"Oh, you're one of the cranks!"

—*American School Board Journal.*

Jock of Hazeldean

A LESSON IN LITERATURE.

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[The following is merely a suggested treatment of the poem, and the teacher may find it advisable, according to conditions, to depart wholly or partially from the method here outlined.]

"The difficulty that I find in teaching a poem such as this", said an English teacher recently, "is that the story is so easy that the pupils understand it at once. There are only one or two difficult words or phrases, and all that is to be done is to read the poem through, and then go on with something else."

If a poem is so simple that no teaching is required, the teacher's task becomes an easy one. It is a foolish thing for the teacher to attempt to find difficulties where none exist, and we may take it for granted that there are poems in the English language so simple and yet so beautiful that it is sufficient for us merely to read them and enjoy them without trying to dissect them.

But it is true also that a very simple poem may require a great deal of skill in teaching; and although there may be no words in the passage whose meaning is not perfectly understood, the poem may contain a wealth of suggestion which neither teacher nor pupil can afford to miss. As a usual thing there is plenty of material in a poem of fifteen or twenty lines to occupy a class profitably for half an hour,—and if the teacher finds the time heavy on his hands and sees nothing in the poem to teach, there is something wrong with either his point of view, or his method, or both. The thing which he must constantly keep before his mind in preparing his lesson is: *How can I present this poem so that my class will both understand it and enjoy it?* How shall I introduce the poem? What explanations are necessary? What kind of questions shall I ask? What illustrations, if any, shall I use? What difficulties does it contain, and how shall I meet them? How much time should I give to the poem? How shall I test the pupils' knowledge and appreciation?

To introduce a lesson on *Jock of Hazeldean*, only a simple preliminary statement is required, as, for example: "To-day we are going to study a short poem which contains the outline of a love story. As we read it stanza by stanza I want you to try to supply the details of the story".

The teacher reads the first stanza, and then questions as to the story. (Perhaps it is as well for the class to keep books closed.)

“Why weep ye by the tide, ladie?
 Why weep ye by the tide?
 I’ll wed ye to my youngest son,
 And ye sall be his bride:
 And ye sall be his bride, ladie,
 Sae comely to be seen”—
 But aye she loot the tears down fa’
 For Jock of Hazeldean.

Who is the speaker? Evidently a noble lord (or lady). *To whom is he speaking?* A young woman. *Where are they?* By the side of some water, perhaps the sea, perhaps a river. (Note this use of the word *tide*.) *What are you told of the lady?* She is weeping. *Why?* *What does the poem say?* “For Jock of Hazeldean.” *Who was he?* *Why was she weeping for him?* (Get a number of suggestions and leave class to find out later which one is correct.) *What else are you told about her?* She is beautiful (comely). *How does the speaker try to soothe her grief?* (Read lines 3 and 4).

Now read the second stanza:

“Now let this wilfu’ grief be done,
 And dry thy cheek so pale;
 Young Frank is chief of Errington
 And lord of Langley-dale;
 His step is first in peacefu’ ha’,
 His sword in battle keen”—
 But aye she loot the tears down fa’
 For Jock of Hazeldean.

What does the speaker think of the lady’s weeping? He says that her grief is *wilful* (write the word on the board and show its derivation—*will-full*—determined, obstinate, on purpose.) He thinks that she could control her feelings if she wished. *What offer had he already made?* (See first stanza). *What does he now say of “his youngest son”?* He has rich estates. He is honoured in times of peace (His step is first); and he is brave in battle. *What effect does his praise have on the young lady?* (Lines 15—16).

Read the third stanza:

“A chain of gold ye sall not lack,
 Nor braid to bind your hair,
 Nor mettled hound, nor managed hawk,
 Nor palfrey fresh and fair:
 And you the foremost o’ them a’
 Shall ride our forest-queen”—
 But aye she loot the tears down fa’
 For Jock of Hazeldean.

He has praised his son,—but without effect. He now appeals to the vanity of the lady herself,—with the offer of jewels and ornaments, a hound, a trained (managed) hawk, and a horse of her own, and the most honoured place in train who rode to the chase. *What effect has this appeal?*

Suppose now that time passes, and her true lover, Jock of Hazeldean, does not return, it is easy to see how at length she might yield to these pleadings. The last stanza shows everything ready for her wedding to young Frank. Read the stanza:

The kirk was decked at morning tide,
 The tapers glimmered fair;
 The priest and bridegroom wait the bride,
 And dame and knight are there;
 They sought her baith by bower and ha'
 The ladie was not seen!
 She's o'er the border and awa'
 Wi' Jock of Hazeldean.

Describe the scene, the place, the time, the people, the search. The last two lines contain the key to the story. *Who was Jock of Hazeldean? Evidently either an outlaw or a chief of some hostile border clan. Where is the scene of the story laid? In the Border country between England and Scotland. What else does the poem suggest as to time and conditions?* Now read the poem as a whole, and have the class read it with spirit.

The lesson will occupy from twenty minutes to half-an-hour. The questions suggested above present little difficulty, and can be answered rapidly. Do not spend time in the discussion of the literary form or in digressions as to Border life which the poem suggests. The poem contains dialect expressions; but beyond making sure that the pupils understand the general meaning, it is not worth while to discuss these particular words. The story itself is the chief source of interest.

Lecturing one day on emphysema, which is the unnatural distention of a part with air, Dr. Joseph Bell introduced to his class at Edinburgh a patient suffering from that complaint. "Now, gentlemen," he observed, "we shall probably find that this patient used to play some musical instrument." Turning to the patient he said: "You belonged to a band, did you not?" "Yes, sir." "Now tell the class the sort of instrument you played." "The big drum," was the answer, quite unprepared for.

Nature Study for February

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THE HEN'S EGG

1. Introduction.—The purpose of this lesson is to combine a nature study lesson with one in agriculture. It is intended particularly as a type lesson for a rural school.

2. Study of the Hen's Egg in the Class.—For this purpose it will be necessary for each pupil to bring to school an egg; let the boys bring theirs raw, some new laid, others two weeks old; each girl should bring one that has been boiled for one-half hour. If the class is small a few eggs supplied will do, but nothing is so good as to have a specimen in the hands of each pupil.

(a) *Observations to be made by the pupils.*—What are the different colours of the eggs? What are their shapes? Measure the lengths, greatest width; find the weight of half-a-dozen and calculate how many weigh a pound, also how much a dozen weighs. (In the arithmetic class let them calculate how much a pound of eggs is worth at the current rate per dozen). Roll one on a flat surface and notice the direction it takes. Make an elliptical ball of plasticine or putty, roll it and notice its direction. Roll both in a concave vessel the shape of a nest and notice how differently they move. Which shape would make the egg least likely to roll out of the nest? Hence what value has such a shape to the bird? Draw six elliptical figures on a paper and six egg-shaped figures as compactly as they can be arranged. Which have the larger spaces between them? What value has the shape for arrangement in the nest while the hen is setting? Examine the surface very carefully with a lens and see whether it has little pores in the shell. Can you suggest a use of these pores to the chick in the egg? Do you see how these pores might have something to do with an egg going bad? How could this be prevented? Place half-a-dozen fresh eggs on a pair of scales and weigh them accurately. Leave them for several days in the school, then weigh again. Have they lost weight? Explain this and show what the pores had to do with it. Carefully peel the shell off the egg beginning at the big end. Did the egg completely fill the shell? At which end was the empty part, or air space, as it is called? Which had the largest air-space, the egg newly laid or the ones laid two weeks ago. Explain the difference by the experiment on weighing performed above.

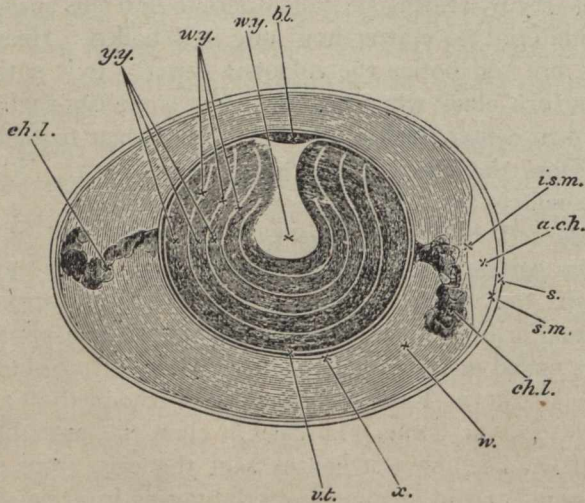
How could you tell the age of an egg approximately? Which would lose weight more rapidly, eggs kept in a warm, or a cool place? What covers the contents of the egg? Break some of the fresh eggs into glasses of water and some out on saucers. Cut the hard-boiled eggs from end to end with a sharp knife. In the fresh eggs notice the globular yellow part surrounded by the transparent so-called white. From each end of the yellow passes out a whitish ropy thread to the outside of the white. On the yolk notice a little opaque spot; that is the embryo chick. In the hard-boiled egg find the features illustrated in the drawing. The two ropy masses (ch l) pass from the yolk out through the white and help to suspend it in the white. The yolk is in concentric layers. A pear-shaped hollow (w y) passes down into the centre of the yolk. This never hardens; try by tearing the yolk apart to find this space filled with quite liquid material no matter how long it is boiled. Heat a piece of egg-shell in a fire and notice the colour it turns? Is it entirely stony? Do any rocks turn black when heated? Put some egg-shell in a bottle and some broken oyster shell in another, add vinegar to each and leave for a day. Does the vinegar act the same on both? Why are fowl given oyster shells to eat?

(b) *Facts to be thought out by the pupil or found out at home from parents or from agricultural papers.* Which breeds of fowl lay the brown eggs and which the white? Which presents the best appearance, the two kinds mixed or separate? Which presents the best appearance, the different sizes mixed or separated? Hence what sorting should be done in sending to market? Find the different methods that are used for preserving the eggs at home. Discuss in class the probable values of these methods in keeping the contents of the eggs from evaporating through the pores and in keeping bacterial germs from passing into the egg through the pores. How are the eggs packed to ship to market? Where are the eggs, produced in the neighbourhood, shipped? At which season of the year are eggs cheapest? At which dearest? In order to make poultry profitable as egg layers, what are some of the most important things to accomplish?

(c) *Information for the teacher.*—Hens' eggs are either brown or white; the brown are layed by the large-bodied breeds such as Rocks, Wyandottes, Orpingtons, etc., and the white by the small Mediterranean fowl as Leghorns, Minorcas, etc. The eggs vary greatly in size, because the young pullets in the autumn, when first beginning to lay, lay much smaller eggs than the older fowl. An average egg measures about $2\frac{1}{4}$ " by $1\frac{3}{4}$ ", and weighs about 2 ounces, or 8 eggs to the pound, or $1\frac{1}{2}$ pounds to a dozen. On account of being ovate, if an egg is rolled forward on a flat surface, it will turn and swing in a circle, while an

elliptical body will roll forward. In a concave surface such as a nest it is almost impossible to roll the egg out as it swings in a very small circle, while the elliptical body will move right across. This is undoubtedly of value to a bird while setting on such a shallow nest, as the eggs are kept compactly in the central part. It is particularly valuable to birds which deposit their eggs on shallow hollows in rocks on the sides of precipices, and it is in just such eggs that the difference in the ends is most marked. Ovate eggs also fit much more compactly in a nest than would elliptical eggs. They are therefore likely to be much more perfectly covered by the incubating mother and there is greater certainty

FIG. 1.



- bl. germinal spot.
 ch.l. rosy cords.
 a.ch. air space.
 s. shell.
 w. white.
 w.y. flask-shaped mass of noncoagulable material.
 y.y. layers of yellow yolk.

of their hatching. Every such trifling advantage plays its part in the keen struggle for existence, and it is often such slight differences that determine where an animal will thrive and cover the earth or join that melancholy list of the extinct.

The surface of the shell is covered with little pores that pass right through it. Through these openings water is continually evaporating from the egg. When newly laid the egg completely fills the shell and there is no air-space, but in a day or so this develops, and the older the egg the larger it becomes. If kept in a warm place the air space enlarges more rapidly, as might be expected. By means of these pores the young

chick in the egg is able to breathe. The increase in size of the air-space gives a method of accurately testing the age of an egg. If 2 ounces of salt are dissolved in 1 pint of water, an egg one day old, placed in the solution, will sink below the surface, while one 3 days old will swim just immersed in the liquid; if more than 3 days old, the egg will float on the surface, the amount of shell exposed increasing with age:

The shell when heated strongly turns black like any other organic substance, showing that it is not purely of stony material, but has some animal matter in it also; no rock when heated turns that colour. Vinegar or any other acid attacks it, giving off a gas, carbon-dioxide; as both it and oyster shell are largely composed of limestone they act alike in this respect. One reason why oyster shells are beneficial for fowl is in order that material for making eggshells may be eaten in sufficiently large quantity.

When the shell is removed it is seen that a membrane completely surrounds the contents. This adheres to the shell except at the large end where the air-space lies between the two. Inside are the white and the yolk; the latter located centrally. The white completely surrounds it as in the figure. Two stringy masses (ch 1) pass out from the ends of the yolk along the long axis of the egg, and pass almost or quite through the white. On the top of the yolk is a small spot (b 1) smaller than a five-cent piece; this is called the germinal spot and it develops into the chick, using all the rest for food. The yolk is in concentric layers (y y) that can easily be separated in the hard-boiled specimens.

In preparing eggs to sell, in order that the highest price may be received, everything that will help to give a pleasing appearance will in the long run be of great assistance. The large and small ones should be separated as should the brown and white, and dirty eggs should be kept separate. A dozen eggs of uniform size and colour, all clean and bright, will always command the best price in cities.

As fowl lay eggs most abundantly during the spring, summer and early autumn, and as eggs become scarce in the late autumn and early winter, it is profitable to preserve them in the early fall when they are cheap and abundant, until the winter, when they are dear. There are various ways of preserving eggs. The following results of a test will indicate the good and the bad ways of preserving them. "Recently, in Germany, twenty methods of preserving eggs were tested. The eggs were kept for eight months with the following results: Those preserved in salt water were all bad. Of the eggs preserved by wrapping in paper 80 per cent. were bad; the same proportion of those preserved in a solution of salicylic acid and glycerine were unfit for use. Of the eggs rubbed with salt, 70 per cent. were bad, and the same proportion of eggs packed

in bran, or covered with paraffin, or varnished with a solution of glycerine and salicylic acid. Of the eggs sterilised by placing in boiling water for 12 to 15 seconds, 50 per cent. were bad. 40 per cent. of eggs varnished with waterglass, collodion or shellac were bad. 20 per cent. of the eggs packed in wood ashes were spoiled; the same proportion of those treated with a solution of boric acid and water glass. All the eggs varnished with vaseline were good, as were all the eggs preserved in a solution of limewater or waterglass. As varnishing each egg with vaseline is tedious and limewater sometimes affects the odor and taste, immersion in a solution of waterglass is to be recommended." This fills the pores with glass and prevents bacteria from getting in, and water from evaporating out. The waterglass comes as a syrup or as a powder. 1 part of syrup to 10 parts of water makes a suitable solution; if powder is used, 12 or 15 parts of water may be added.

The eggs are usually packed in egg-crates. These contain a compartment for every egg, and the eggs are placed with the large end up. Then they are shipped from the rural districts to the towns and cities where they are consumed. Some are shipped from Ontario to Western Canada, but not as many as formerly. A few years ago we used to send large numbers to England but we have ceased to export. At present we in Canada have to import eggs in large quantity from the United States.

Suggestions for the Classroom

Book Reviews.—To encourage pupils to read good books and to do that to the best of their ability, at the beginning of the month I put into the hands of each pupil, from the fifth grade up, a library book which is suitable for his grade. I give them a month's time to read the book. The last Friday afternoon of the month, I have them spend a half-hour in writing a brief sketch of the book read, giving the name of the author and telling why they did or did not like the book. I then read all the reports to the school. They like to listen to these and in that way learn something about good writers and their works.—Stella R. Bouchard in *School Education*.

If I can scatter flowers along the path, or put touches of a rosy sunset into the life of any human being; if I can sow in any human heart the seeds that awaken desire for heavenly manna—by word or deed, sentiment or song—then I feel that I have walked with God.—*Selected*.

Constructive Work for February

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IN the January number of *THE SCHOOL* we discussed the making of boxes. All these boxes had vertical sides. In this number we shall take up the making of trays in which the sides are made with a slant. There is a principle underlying the structure of these objects, which, if once understood, will make clear the method. If the corners are cut at right angles to the line of the base the sides, when joined, will be vertical; if the corners are cut so as to make angles greater than right angles with the line of the base, the sides will slant out at the top, and, if the corners are cut in such a way as to make angles less than right angles with the line of the base, the sides will slant inwards at the top. For illustration of these principles see the box-drawings in *THE SCHOOL* of last month, and compare them with the drawings in this number.

Figure 1 shows a simple, square tray with slanting sides. The corners are made to be fastened by means of laps pasted either inside or outside, at the choice of the pupil. The part that is cross-hatched for cutting off as waste may be left until the tray is fastened together and then trimmed even with the top edge; or it may be marked and cut off before the tray is fastened, if it is seen that the angle marked a in the drawing fits into the angle marked b . The angle b , then, should be made equal to the angle a . The method of making one angle equal to another angle should here be taught as it is needed.

In Fig. 2 is shown an oblong tray with slant sides and turned-out edges. With the exception of the turning out of the edges it differs from the preceding only in shape. The tray proper is laid out and cut exactly like the one above. The edges may be cut in any suitable design, and the suggestions of the pupils should be discussed in class in the light of the principles of design which are found to apply. It will probably be found necessary to discourage too much elaboration, and to teach simplicity. If it is decided to make the edge the arc of a circle as in the drawing, it will be necessary to decide upon a suitable width. When this is determined and the central point found the pupil must be able to describe an arc through three points not in the same straight line. Now is the time to teach how this is done as indicated in the drawing, and incidentally how to bisect a line and draw a perpendicular. It will

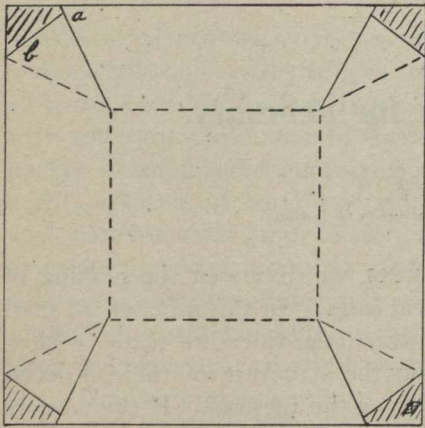
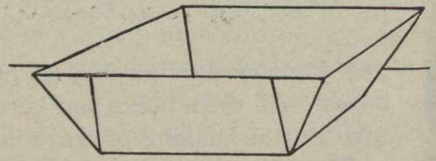


Fig. 1.



Square Tray, Slanting Sides.

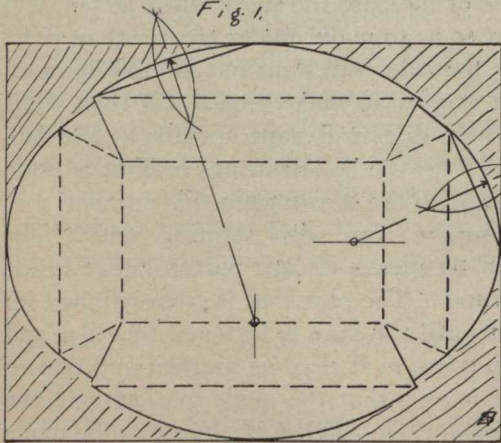
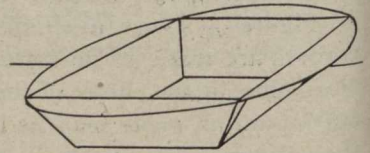


Fig. 2.



Tray with Turned-out Edges.

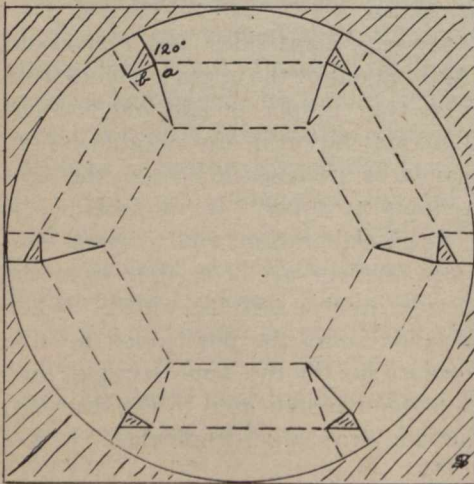
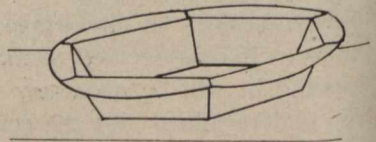


Fig. 3.



Hexagonal Tray.

be seen that some of the creases bend one way and some in the opposite direction. Those that show on the face side of the finished work should be very lightly marked. Lead pupils to see the wisdom of marking the parts to be cut off before beginning to cut. A mistake in marking may be corrected but not so a mistake in cutting.

There is very little new in Fig. 3 with the exception of the construction of the hexagon. It will be noticed that the corners are cut so that the laps will appear, when pasted, only on alternate sides of the tray. Angles a and b should be made to fit each other as before. The small triangle cut out above this lap might have been left in without any inconvenience, and only the line above b cut. Unlike those in Fig. 2, the edges of the hexagonal tray are fastened at the corners. In order that they may hold a horizontal position when fastened, their angles must be the angles of a hexagon, that is 120° .

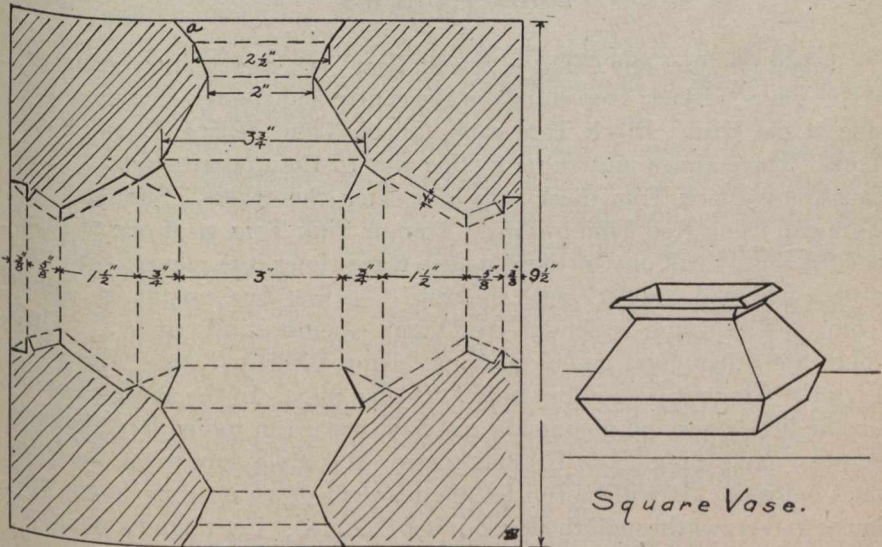


Fig. 4.

It will be noticed that dimensions have been omitted in these drawings. This has been done in order that the principles of construction might receive the greater emphasis. Besides, pupils should be taught to plan for suitable dimensions as well as for a pleasing design. In No. 4 it was thought advisable to give dimensions, as the project is more involved. After working it out with the measurements given, it may be repeated in a size to suit the pupil.

For the lack of a better name, No. 4 has been called a vase. It involves all of the principles found in the others, the sides first widening, at the top, then narrowing, and then again widening, with a rim turned

out and down around the top. The only difficulty beyond what was found in the others is in the rim. By carefully considering the drawing of the finished object it will be seen that, if we wish to make the rim sit at right angles to the surface immediately below it, the angles at the edge of the rim as at a , should be 45° . If we wish this rim to stand higher than at right angles to the lower surface we should make the angle at a less than 45° , and if we wish the rim to fall lower the angle at a must be greater than 45° . Make the angle at a 90° and the rim will fall to a vertical position.

Other examples of trays will be found in the Manual on pages 49, 60 and 63.

Book Reviews

Games for Boys and Girls.—"Black Tom" is a merry, interesting and active game. Black Tom stands in the centre and the rest line up on one side of the yard. Black Tom calls "Black Tom! Black Tom! Black Tom!" three times and those in line run to the opposite side. Those caught by Black Tom must help him catch the others. Should Black Tom call using Red Tom or Green Tom or Pink Tom, or if one of those caught should call any of these names three times, the players who run, after a false call, are "it" with the rest. The first one caught is "Black Tom." This game is similar to "Pomp—pomp—pull—away." Then there are other good games such as "King William," and "Borrow a Light." Croquet is good but only a few can play. In the winter, bundle up the little ones and go outside and have great fun rolling large balls of snow to make an igloo, or Eskimo house. It is a pleasure to see the little ones enjoy it. It will be fun for them to get down on their hands and knees and crawl through the low door of the igloo. Let them fix the room as similar to the Eskimo's home as they can. Very likely they will ask for a lamp such as these northern people use. If they can get old fur-coats let them dress in the Eskimo style.

Dramatizing Lessons.—The pupils do love "The Three Little Kittens." Let them make a dialogue of it—read and act it together. Let one be the mother and all the rest kittens. Possibly there may be more than three but children can take part better than they can listen. Then at recess it could be played in the school-yard. Let them put on their mittens, pretend they have soiled them and then have washed them. Different pupils would donate pieces of cake or bread for the pie. A quiet child should be selected to act as rat. Professor Frog's Lecture in the Third Reader may be dramatized and is very amusing especially for the boys.

The Successful Teacher

F. H. SPINNEY

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WE have already decided that the successful teacher has good health, as good looks as Providence and her own good taste can jointly make possible; that she views her work as a work of art—that is, as an expression of the very best of herself; that she is always a student, always growing; and broad enough to admit that the school comes far from holding a monopoly in the matter of education, and that it devolves upon the teacher to take the greatest possible interest in all the outside influences that help to shape the characters of the children under her control.

Not long ago I visited a teacher in a city school, in charge of a large Third Grade. In the course of my visit, there was a 3-minute period of lively physical exercise.

One boy stood out to the front, apparently a model for the other children. His movements were certainly as nearly perfect as is humanly possible. There was nothing to indicate that this preference was resented by the others; nor did the boy manifest any symptoms of elation over his select position.

At recess, the teacher explained that earlier in the term this boy had been seemingly "dull" and decidedly "troublesome", and that his previous teachers had contributed even a worse report.

In a short time, however, she had observed that he did his physical exercises much better than any other boy in the class. This observation gave her the opportunity to bestow a moderate degree of praise, which was apparently a new experience in this boy's life.

From this time on, she gradually won his entire confidence; she learned that he had a step-mother at home, and that his home life was not a happy one. She tried to compensate partially for this calamity by lending him interesting books and attractive indoor games. "He is now one of my best boys!" she exclaimed, her eyes shining with enthusiasm.

This teacher had evidently changed the tenor of one boy's entire life. How?

First, by her keenness of observation. Even in physical exercises, she had an eye to the individual pupil, and noted this particular boy's superiority in one form of activity.

This afforded her the opportunity of using the most effective instrument in the hands of a tactful teacher—the word of praise, bestowed in the right spirit and at the right time.

Furthermore, she had the natural sympathy which encouraged her to step aside from the beaten path of routine, to apply special treatment to a child who lacked the one thing a child most needs for his best welfare—a mother's love.

All the exercises of that morning testified of this teacher's fitness for her work. She was an artist—a lover of her handicraft.

With her, the individual child stood out above method and above text books.

We need more teachers who have the art of teaching children rather than subjects; who believe that character is of more concern than class percentage; who know how to deal with the individual, when the individual is in need of special treatment—as is the case with nine out of ten of the children pronounced “dull” or “troublesome”.

It seldom occurs to us that we expect better behaviour from children than we do from adults. How many adults would sit in an awkward, hard seat for three hours without making a most disturbing fuss over such a restriction? I have sat in a school desk for 30 minutes, listening to a lecture; and was highly delighted when I was given the opportunity of moving out into the open air.

All teachers would greatly diminish their troubles and perplexities, if they would take pains to study into the individual circumstances of each pupil, and then regulate the entire school programme according to the results of such study. There might be found some little difficulty at the beginning of such procedure; but persistent effort will finally convince those in authority that *common sense* is a useful ingredient, even in the matter of education.

A rural school teacher, newly transplanted to a well organised “labour town”, tells this anecdote.

One day the arithmetic work given the class included a problem beginning: “If ten men should work ten hours—.” One of her pupils sat stiff and straight and stern, making no attempt to do the task set before him.

“What is the matter, Tommy? Why aren't you at work on your problem?”

“My papa's a union man,” exclaimed Tommy, “and I know he wouldn't want me to work at no problem what keeps men working more than eight hours.”

The Comparison of Triangles

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THERE is no topic in geometry quite so important as the comparison of triangles. In the first place, the student meets with it throughout his entire course, and in the second, it serves as a most convenient introduction to the solution of exercises. The purpose of the present article is to outline a method of introducing this topic to first or second form students just commencing the study of formal geometry.

One method—only too common in former times—was simply to present the first case to the class, have it demonstrated, pass on to the next and so on, without any attempt to have the poor tyros appreciate the setting of these theorems.

More recently on the introduction of a course in practical geometry, the aim was to have the students deduce the theorems as a result of certain careful constructions, accurate measurements, and paper cutting. The scheme was something like this. Construct two triangles, in each of which the sides are 2, 3, 4 inches respectively. Measure the angles. What do we find? Cut out the triangles and apply one to the other. What do we find? And the pupils were thrilled by the remarkable discovery that two triangles made according to exactly the same specifications and in exactly the same way, proved to be exactly alike in every respect. Such an investigation could hardly be expected to excite the students' interest in geometry or to enhance his respect for the subject.

The writer presents herewith another method that he has used with some satisfaction. The plan is indicated by means of questions and answers. It is not to be understood that the following constitutes only a single lesson. Excellent work of a practical nature may be introduced in connection with each case. This will readily suggest itself to the teacher, and indeed, the consideration of each case may well merit an entire lesson period.

The purpose of the investigation is not to establish certain theorems on the congruence of triangles, but to have the pupils discover that certain conditions with respect to the sides and angles of two triangles *apparently* require the triangles to be congruent, while certain other conditions do not. He is then able to appreciate the significance of a theorem on the congruence of two triangles and to understand the necessity for its formal demonstration.

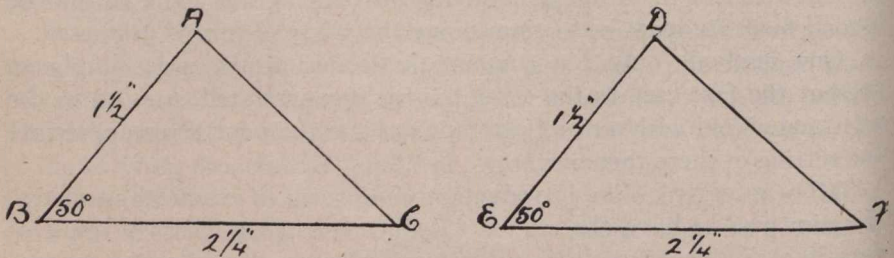
Teacher—I have drawn a triangle ABC. If you were asked to make another triangle—say DEF—exactly like this one, how would you proceed?

Pupil—I would measure all the sides and angles of ABC.

T. We shall call these the dimensions of triangle ABC. (one of the pupils makes these measurements of the board). What then?

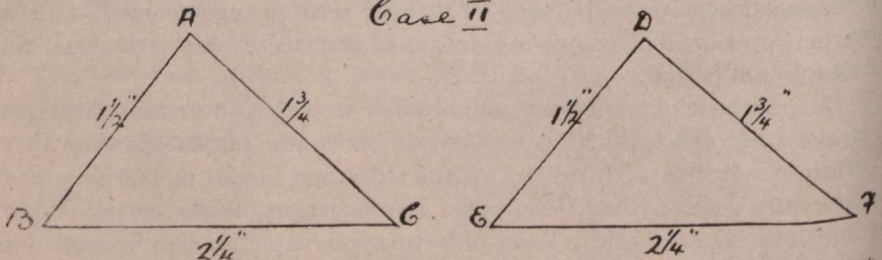
P. Draw a line (EF) the same length as BC; then at one end (E) make an angle the same size as B, and extend the arm (ED) the length of AB. Join D and F.

Case I



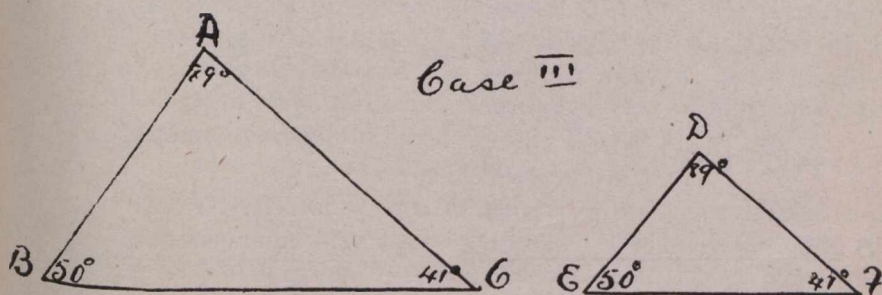
T.—How many dimensions have you used? *P.*—Three. *T.*—What were they? *P.*—AB, BC, angle B. *T.*—Can you describe these dimensions in general terms? *P.*—Two sides and the angle between them. *T.*—We might say two sides and the contained angle. Can you name another set of three dimensions of the same kind? *P.*—AB, AC, angle A; BC, CA, angle C. *T.*—How does our new triangle seem to compare with ABC? *P.*—It seems to be exactly the same. *T.*—In what respects do we know ABC and DEF to be alike? *P.*—Two sides of one are the same as two sides of the other and the contained angles are equal. *T.*—In what other respects do they appear to be alike? *P.*—The other angles and sides are equal and the areas are equal. (Make similar investigation for other triangles.)

Case II

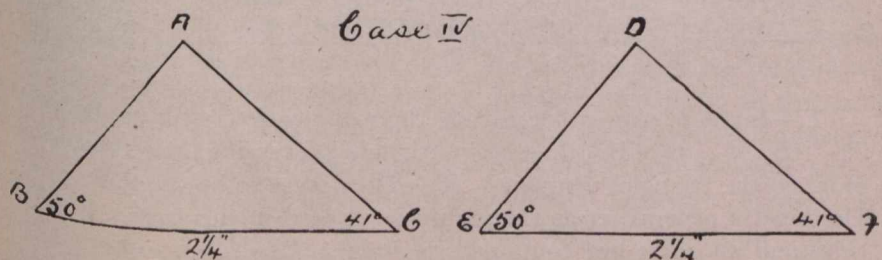


T.—Can you suggest an entirely different set of three dimensions that might be used to make the triangle DEF? *P.*—The three sides AB, BC, CA. *T.*—How would you construct triangle DEF knowing only the

lengths of AB , BC , CA ? Here some simple questions not pertinent to our purpose may be necessary to develop the required method. The construction as developed is made by one student on the board. *T.*—How does this triangle seem to compare with ABC ? *P.*—It seems to be the same. *T.*—In what respects, at least, do we know the two triangles to be alike? *P.*—The sides of one are respectively equal to the sides of the other. *T.*—In what other respects do they appear to be alike? *P.*—The angles of one are respectively equal to those of the other and the areas are the same. (Again use other triangles).

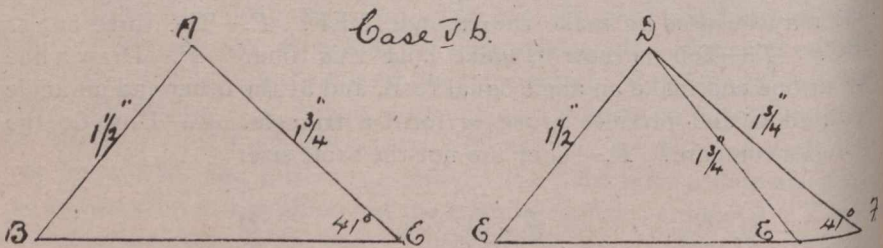
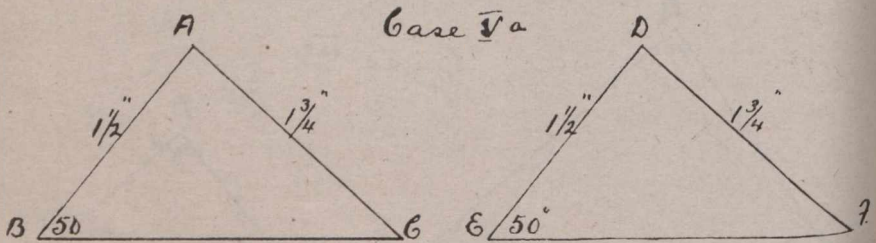


T.—Is there any other set of three dimensions of the triangle ABC that may be used to make the triangle DEF ? *P.*—The three angles ABC . *T.*—Tell me how to make DEF this time? *P.*—Draw a line and at one end make an angle equal to B , and at the other end an angle equal to C and produce arms for form a triangle. *T.*—How do the triangles compare? *P.*—They are not the same size.



T.—Can you suggest still another set of three dimensions? *P.*— BC , angle B , angle C . *T.*—Describe them in general terms. *P.*—One side and the angles at the end of that side. *T.*—Construct triangle DEF using these dimensions. How do the triangles seem to compare? *P.*—They appear to be the same. *T.*—Could we use BC , angle B and angle A ? *P.*—Yes, since the angles of a triangle make up 180 degrees,

if we know angle B and angle A, we can find angle C and proceed as before. *T.*—How then might we describe this set of dimensions? *P.*—Two angles and a side. *T.*—Name another set of the same kind? *P.*—AB, angle A, angle B; AC, angle B, angle A, etc. *T.*—In what respects do we know triangles ABC and DEF are alike in this case? *P.*—Two angles and a side of ABC are respectively equal to two angles and a side of DEF. *T.*—In what other respects do they appear to be alike? *P.*—The remaining dimensions of one are equal to the remaining dimensions of the other and the areas are the same.

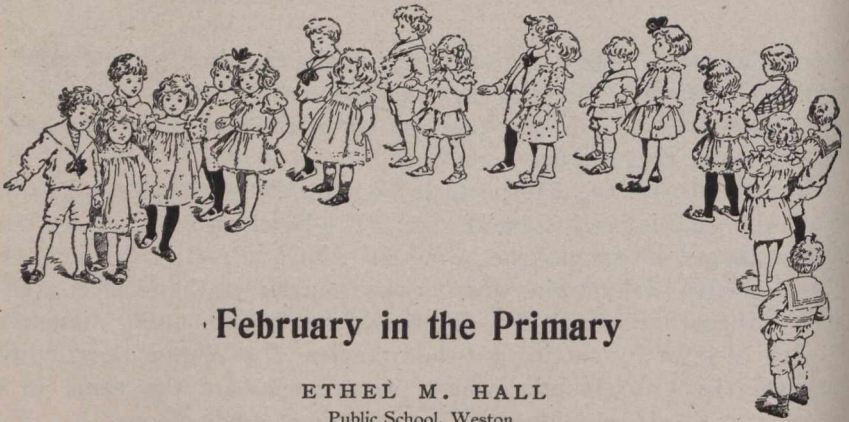


T.—Is there any other set of three dimensions still to be tried? *P.*—AB, AC, angle B. *T.*—Make triangle DEF using these dimensions. How do the triangles compare? *P.*—They seem to be the same. *T.*—Describe in general terms the set we have used in this case. *P.*—Two sides and an angle not contained by them. *T.*—Name another set of the same kind? *P.*—AB, AC, angle C. *T.*—Make the construction using these. (A few questions bring out the fact that two triangles DEF are possible). What do we find in this case? *P.*—We get two different triangles. *T.*—How do they compare with ABC? *P.*—One appears to be the same as ABC and the other is not. *T.*—In what respects are ABC and DEF alike in both cases? *P.*—Two sides of one are respectively equal to two sides of the other and an angle opposite

one of these sides in one is equal to the angle opposite the corresponding side in the other. *T.*—What appears to be the relation between ABC and DEF here? *P.*—In one case the triangles seem to be alike and in the other case they are not.

Review. *T.*—In what respects do we know these triangles to be alike? (Case I). In this case? (Case II), etc. *T.*—In which cases do we seem always to get a triangle the same as ABC? *P.*—In cases I, II, IV. *T.*—How may we determine whether the triangles ABC and DEF are the same in these three cases? *P.*—By measurement of remaining dimensions in each case, or by cutting out the triangles. *T.*—What is the condition suggested by Case I under which two triangles are the same in all respects? *P.*—If two sides and the contained angle of one. . . . *T.*—Now let us try to show without measurements that two triangles alike in these respects, must be the same in every respect.

A CASE OF DISCIPLINE—When William S. West, junior senator from Georgia, was beginning his career by teaching a country school in the Southland, he had occasion to reprimand one of his "big" girl pupils. One day he determined to break her from the mischievous habit of disturbing her neighbours by stating that he would feel obliged to whip her if she played another prank. Within ten minutes, the girl was passing notes to several of her neighbours. Although every feeling of chivalry rebelled, West bade her step up to the desk, picked up a ruler and smacked the mischievous creature several moderately severe blows on the palms of the hands. But she was a game little scamp and instead of crying, shot a defiant look at him, and scornfully declared: "I'll get even with you for that." During the rest of the day, West's conscience pricked him. He felt ashamed that he had acted so hastily and as it appeared now, so ungentlemanly. If the girl was affected, she showed it only in a heightened colour and an unnatural attention to the tasks in hand. The next day, and the next, West's regret grew as he realised that the girl was really the prettiest and most interesting young person he knew. On her part, the sting of humiliation seemed to have passed and she was as gay as ever. Time went on, and West quit teaching school, but he kept up an acquaintance with a few of his pupils, particularly with the young girl whom he had smacked on the hands with a ruler. Gradually he made a wonderful discovery: the oftener he called on her, the more he wanted to call. So he called frequently. After the lapse of three years, they were married. Just after West had kissed his blushing bride in the portico of the church, she pulled down his head and whispered into his ear: "I told you I'd get even with you".—*American School Board Journal.*



February in the Primary

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FEBRUARY is the only month of the calendar having a variable number of days. January and February were added to the year by King Numa in 452 B.C. The ancient Romans had tried to get along with ten months in their year. After a time one day was taken from February and added to August in order that that month might have the same number of days as July.

The word February means purification. The old Romans held a feast on the fifteenth day of the month to the God Lupercus which was supposed to protect their flocks and herds upon the hills. The feast signified the driving out of the wolves which ravaged the sheep and cattle, thus purifying the land for another year. The meaning of the month has lost its ancient significance but it will be well to revive *thoughts of purity* in the minds of the children. Teach the spelling of the word "February". Review the old rhyme "Thirty days hath September, etc." in order to fix the number of days in the month.

Scripture Memorization.—1. Blessed are the pure in heart, for they shall see God. Matt. 5. 2. Suffer little children to come unto Me and forbid them not, for of such is the kingdom of Heaven. Matt. 10; 13. 3. And the streets of the City shall be full of boys and girls playing in the streets thereof. Zech. 8; 5.

Prayer for February.—Father send on us Thy blessing,
As we come to Thee in prayer,
Let us feel that Thou art near us,
Keep us in Thy tender care.
Lord we come to Thee for blessings,
Which Thou only canst bestow,
Grant us all new hearts, dear Father,
Grant that we like Thee may grow.

February Hymn.—"Suffer Now the Little Children."

Song for February.—"I'm little February,
 And I have come to see,
 That naughty January
 Who ran away from me.
 I bring a store of good things,
 Of birthdays old and rare,
 And Valentines in plenty
 Are floating in the air."

This song will introduce the "Special Days" of the month. These are St. Valentine's Day, February 14th. Birthday of Chas. Dickens, February 8th. Birthday of Thos. A. Edison, February 11th. Longfellow's Celebration, February 27th.

The pupils will be interested in the life of Chas. Dickens as a boy and as a man. Tell the story in such a way as to arouse interest in his stories. Children of six and seven may become very enthusiastic over "Christmas Stories", "A Child's Dream of a Star", "David Copperfield", "Little Nell", etc.

Children always love Longfellow. Any reference to his life and works will bring a happy response. Tell of his love for birds, animals and children. Illustrate this from his poems: "The Birds of Killingworth", "Hiawatha", "The Bell of Atri" and the "Children's Hour". Memorize "Leaves and Children!" St. Valentine's Day is always remembered. Tell the story of St. Valentine. Do not forget the world's great benefactor, Thos. A. Edison. Ask the pupils to find out all they can about his inventions. Edison teaches a lesson of concentration and perseverance.

Nature Study.—Awaken a sense of the nearness of spring as seen in the variation of snow-falls and the thaws.

Early in the month bring in twigs from all the common trees. Place these in sunny windows and encourage the pupils to watch for development. Bring out the fact that the tiny buds and branches on the trees are fed by the sap in the tree just as the twigs are fed on the water in the jar. Which are the most perfect? Animal life makes a good study this month. Domestic animals: horse, cow, dog, cat, pig and sheep. Wild animals: bear, deer, wolf, fox, wood-chuck. Bird Study: sparrow and chickadee.

Picture Study.—Artists,—Holmes, Rosa Bonheur, Barber. Studies of,—cats, horses, dogs.

February Literature.—1. Afternoon in February—*Longfellow*. 2. A Song of Love—*Lewis Carroll*. 3. Only the Mother. 4. Beautiful Things. 5. What Does Birdie Say?—*Tennyson*. 6. My Mother. 7. The Baby. 8. Somebody's Mother. 9. Poems illustrating animal life. 10. Imitative animal verses.

Poems for Memorization.—1. The Year's Second Child—*Annie McMullen*. 2. The Night Has a Thousand Eyes—*Bourdillon*. 3. Love That Self-forgetful Gives—*Whittier*. 4. Beautiful Things. 5. The Dawn is not Distant—*Longfellow*. 6. Love is Sunshine, Hate is Shadow—*Hiawatha*. 7. February Sunshine Steeps Your Boughs—*Bryant*.

Legend and Story.—1. How Athens was Named—*Beckwith*. 2. Pegasus—*Beckwith*. 3. Old Sol—*Child's World*. 4. Nahum Prince—*Child's World*. 5. A Red Cross Dog—*E. M. J.* 6. Moufflon—*Kate D. Wiggin*. 7. The Knight Errant—*Grace Allen*. 8. A Dog that went to School—*Boston Herald*. 9. The Little Pig's House—*J. Hobart*. 10. Piggy Wee. 11. Black Beauty. 12. Jungle Book—*Kipling*. 13. Animal Stories—*Seton-Thompson*. 14. A Dog of Flanders.

February Songs.—1. Skating Song—*Wealth of School Songs*. 2. Winter Song. 3. Coasting Song—*Carrie Bullard*. 4. Chic-a-dees—*Nina B. Hartford*. 5. Little Sparrow Birdie—*Hartford*. 6. Little February—*Barton*. 7. The Blacksmith—*Songs of the Child World*. 8. The Horse—*Songs of the Child World*.

Spelling.—February is soon enough to begin formal spelling. If it is begun too soon the reading is apt to be retarded. By the end of January the phonogram work will be finished. Review the phonograms—that is take the families such as *at, in, op, ot, an, am*, etc. 1. Place these on the blackboard and have the pupils pronounce them rapidly. (*Do not confuse phonics and spelling.*) 2. Let individual pupils pronounce and spell at the board. 3. Have the pupils face the class and spell (*a*) *at* words, (*b*) *am* words, etc., continuing throughout the phonogram lists. Five months of the ten are left for spelling, which is sufficient if the work is done systematically.

Reading.—Five months of solid foundation work in reading have been done. The pupils will be ready and eager to read for themselves. The primary teacher must guide them. 1. Begin the review of phonic words. 2. Begin the review of phonograms. 3. Continue sight reading of good selections. Never present anything useless or not worth remembering. 4. Formal introduction to the Primer and other printed selections may now be begun. Choose a lesson in the Primer. "The Cat

and the Bird" is good. Write in script on the blackboard. (a) Have the pupils read the selection. (b) Have the pupils dramatise it. (c) Turn to the page in the Primer. Talk about the picture. What is Kitty saying? "Good morning little Bird". What does Birdie say? Let the pupils read the story from the printed page. (d) Repeat with other selections.

Number.—1. Begin tables containing the doubles $9+9=18$; $8+8=16$; $7+7=14$; $6+6=12$; $4+4=8$, etc. Use these in rapid addition as they are learned. 2. Count by 10's, 5's, 2's, 3's, 4's and 6's. 3. Count by 5's in Roman notation. 4. Read and analyse numbers between 299 and 399. 5. Written addition of one, two and three columns in tens and doubles. 6. Oral problems using these combinations. 7. Practice in changing money.

Manual Training: Topic—Winter Sports in Canada—The winter sports suggest many ideas for bright and enjoyable *posters*. These can be made in silhouette by mounting the black cuttings on white paper or white on black. Skating scenes, coasting scenes, making snow men and snow forts, posting valentines, winter scenes with bare trees, etc.

Model the animals studied in the nature study period. Make the figures to be placed on the table to illustrate "Russian Life".

Art.—Illustrate the topic of winter sports—pose drawings in charcoal.

Folding.—Houses for the peasant villages, churches, sleighs, etc.

Geography.—Russia.

I. Climate—extremes of heat and cold. Long winter intensely cold. Very short spring. Short hot summer.

II. Physical features—steppes, forests, rivers, etc.

III. People—1. Noble and peasant (serf). Homes—palace and *iyba*. 2. Manner of travelling—horses, reindeer, dogs. 3. Customs—habits of eating and drinking, dress, baths. 4. Pleasures—festivals, *swjatki*, *wasili*, Russian carnival (Butter Week). 5. Fairs—Nijni Novgorod, music and dancing. 6. Cities—Petrograd and Moscow.

Legends of the Russian spring. Poems of Russian Child Life. Life of Peter the Great.

Mass in the pictures of Russian life on the board behind the sand table making the types of winter and summer and peasant life.

The children will become intensely interested in Russia and will be eager to work out their knowledge on the sand table. Divide the table to the seasons.

Read many books on Russia. You cannot teach primary geography with a *narrow vision*.

Art for February

- I. MARGARET D. MOFFAT, Assistant Supervisor of Art, Toronto
- II. W. L. C. RICHARDSON, Faculty of Education, University of Toronto
- III. S. W. PERRY, B.A., Faculty of Education, University of Toronto

[Teachers may write THE SCHOOL asking for information regarding Art Work. These suggestions will be answered in the next available issue by Miss Jessie P. Semple, Supervisor of Art, Toronto, and Miss A. Auta Powell, Instructor in Art in the Normal School, Toronto.]

I. Junior Grades.

Valentines.—Children always enjoy valentines, and with thoughtful planning and careful workmanship may produce some creditable results.

Many motifs are available for the decoration of the valentines, the meanings attached to these motifs adding much interest to the problem. Some of these motifs, with their meanings, are as follows: a heart, love; a chain, strength; a circle, eternity; Maltese cross, service, faithfulness; four-leaved clover (four hearts), luck; an arrow, a message; dove or other bird, a message; flowers (forget-me-nots, pansies, roses, violets) have their own well known meanings.

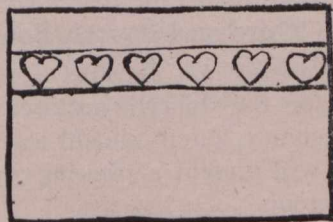
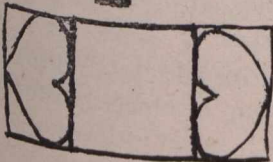
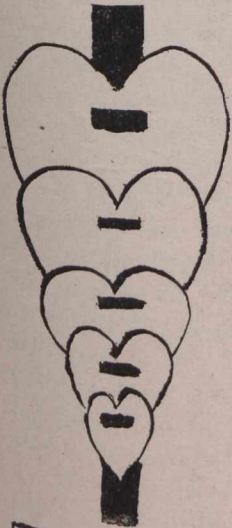
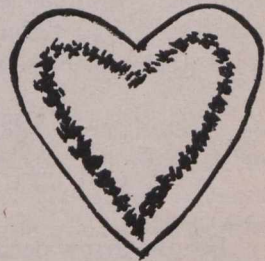
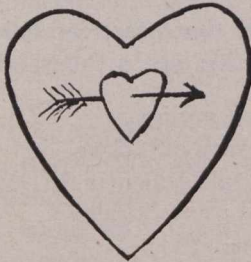
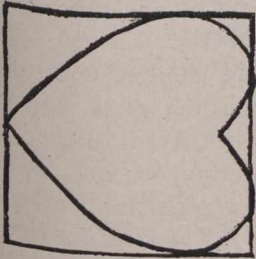
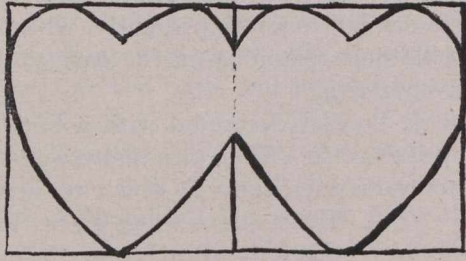
Colours also have their significance: red, love; white, purity; violet, faithfulness, etc.

A simple greeting in verse may be added, the motif, colour, and greeting being chosen for their fitness to each other and their appropriateness to the person for whom the valentine is intended.

The valentines may be designed as cards, folders, book-markers, etc. Several suggestions are given on the next page. The first, a heart-shaped valentine, is simply made by mounting a white heart on a red one of larger size. The greeting may be neatly written or printed on the white heart. Next we have folders made with the heart placed upright or on the side. These are cut out, leaving enough uncut to serve as a hinge. The message may be written on the inner page, and the outer cover decorated as suggested.

An attractive valentine is made of hearts, graduated in size, and mounted on a ribbon. Cut slits the width of the ribbon in each heart, and thread the ribbon through, leaving the ends showing at the top and bottom.

Simple cards to be used as book-markers may be made as suggested. The F, standing for February, looks well in black, with the hanging heart in red.



In the lower corner is another method of cutting a folder, the hearts being wide enough to overlap slightly, when the card is closed. This takes a little more planning on the part of the pupil than the simpler folders given above.

The little booklet decorated with a band of hearts should contain an appropriate verse. There are many well-known couplets and verses suitable for valentines, some of which are here given:

"Hearts have wings on St. Valentine's Day,
They fly to each other from far away,
And hearts that sigh one another to greet,
On the good Saint's day are sure to meet."

"Every joy that heart can hold
Be thine this day, a thousand fold."

"I send you my love
On the wings of a dove,
This dear old Valentine's Day."

For the arrow decoration:

"Such shots as these prove to my mind
'Tis all a myth that Cupid's blind."

For the white heart on the red:

"Look into my heart and find yours."

"Mother dear, I love you true
Here's a valentine for you."

"I used to think this heart was mine,
Instead, it's yours, sweet Valentine."

"Hours fly, flowers die,
New days, new ways pass by,
Love stays."

II. Third and Fourth Book Grades.

Arranging and Drawing Groups.

After the ability is acquired to draw single objects with a fair degree of accuracy, pupils should learn to arrange a group of objects so that they will present a pleasing appearance, and then make a drawing of the group.

Search for good groups close at hand. Take something so near to you that you have overlooked it before. Your work will then have an original and vital quality which it could never have through imitation. "Be content with such things as you have, but not content until you have made the best of them".

Have the children arrange groups which suggest a story, such as a travelling bag, umbrella and hat, a few carpenter's tools, a dinner group of lunch box, cup, pail, etc. Whatever the group is, have objects together which belong together. Help the pupils to arrange, select and reject until the objects are placed in such relation to each other that the eye is pleased and satisfied with the arrangement of mass and of line.

There should be a sufficient number of groups that each child can see one easily. Do not think you can save time by arranging only two or three groups, for the labour of teaching under such difficulties is seven times multiplied.

After the group has been arranged, try to make your students see and plan the group as a whole. Do not let them build it up piece by piece. Referring to this point a writer in *The School Arts Magazine* says: "What teacher has not viewed with dismay the immediate and faithful care bestowed upon the drawing of a small ellipse in a group of several objects? . . . It would be as reasonable for a dressmaker to commence to make a dress by cutting and finishing a buttonhole, or for a carpenter to begin building a house by placing doorsteps in a vacant lot. One might naturally expect these children later to attempt to draw a house by first drawing the door knob".

Begin then not by drawing the objects but by indicating where they are to be drawn later, using the freest, lightest kind of lines. Indicate where the top, the bottom and the sides are to be. Have each pupil compare and test the proportions of his sketch with the proportions of the group (the height compared with the width of the entire group). If we get the large proportions how easily the details fit into their respective places! How hard otherwise! Block in lightly the most important object first, then the next, the next and so on until they are all lightly drawn in with faint, cobweb lines, without erasure of errors. Later the correct lines may be duly emphasized over the others.

Make sheets of quick drawings. At first, pay but little attention to finish. Put the emphasis on true proportions and correct shapes.

In order to save space, we refer you to pages 187, 188 and 190 of the November number of THE SCHOOL for a supply of illustrations.

III. With February Art Classes at the High School.

This month and a part of the next may be very profitably spent in all the forms in sketching figures from life. Many students find this quite difficult at first, but persevered in, it becomes very interesting. The members of the class should be required to pose for one another upon a raised platform or table. If the lesson has been prepared in advance, the one asked to pose for the class will come provided with the necessary outfit (bat, mitt, fishing-rod, etc.) to represent the character chosen.

The students in the first year classes should be taught to emphasize form and proportion, representing the figure and the shapes and folds of the garments in line and in silhouette.

The students of the second year classes should be taught to arrange small groups of figures and express them in broad masses of light and shade, emphasizing, in addition to form and proportion, colour values and surface characteristics.

The children should be encouraged to make pencil sketches of others at work or at play at home or in the school, or wherever an interesting figure is still long enough to afford an opportunity of making a sketch.

To secure correct proportions and properly related positions of the parts of the figure, it will be found best, first to indicate by light lines the direction of the body, the poise of the head, the position of the limbs, and the relative height and width of the figure and its parts, next to block in the whole figure with a broad and simple treatment, and to finish with two or three tones in shade.

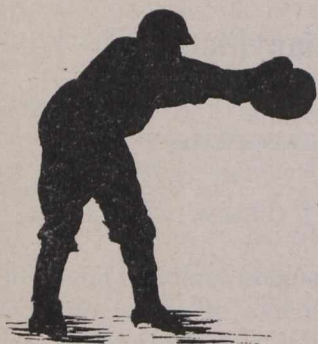
Make the drawing as large as the sheet will permit, after allowing for a fair margin.

The students of the lower school are not required to make finished drawings of the hands or of the face; these should therefore be treated in a very simple way with merely a suggestive outline.

When colour values and surface characteristics are being represented, fabric patterns, as well as other minor details, should be ignored and the general tone only should be rendered. Above all try to avoid stiffness; strive for life-likeness.

Figure drawing may be preceded or supplemented by animal drawing. If opportunities of drawing from living models are lacking, the school museum will generally supply suitable subjects of animals and birds.

After practice has been given in figure and animal drawing, the objects drawn should be reproduced from *memory*.



Fields of Canadian Fiction

DONALD G. FRENCH

Principal, Canadian Correspondence College

[The next article of this series will be on "Poets of the Open Trails" dealing with R. W. Service, "the poet of the Yukon" and R. J. C. Stead, the "prairie poet."]

CERTAIN elements enter into the composition of all novels or works of fiction, and it is the predominance of one or other of these elements that gives us the basis of classification. If character drawing is the most distinctive feature, we may class a book as a "character novel"; if plot is its essential characteristic, then we may call it a "novel of organic plot"; if it has been written with an evident intention on the part of the author to discuss some question of human conduct or policy, it may be called a "problem novel"; but these elements are blended in such varying proportions that it is difficult to draw up any scientifically exact schedule of types. Therefore, in dealing with Canadian fiction, we shall arrange the books in groups which seem to be intimately related because of the similarity of subject matter and the method of treatment.

I. *The Local or Neighbourhood Novel*.—This may also be defined as the "community novel". The common points of resemblance in these works is that they sketch the life of a particular neighbourhood or district. If we go to modern British fiction for illustrations, we may note that Arnold Bennett's greatest success is in writing of the people of "Five Towns" a noted pottery district of England; Thomas Hardy deals with Wessex; Eden Phillpotts writes of Dartmoor; J. M. Barrie's best novels had their setting in the little Scottish village of Thrums.

But to come back to Canadian fiction—here, quite naturally, the community or neighbourhood type of fiction is most strongly developed. L. M. Montgomery pictures the purely rural Canadian community. Marian Keith writes of somewhat similar scenes but the power of the personality of the Scottish portion of her community is over all; her "Glenoro" is typical of many Canadian settlements. Nellie McClung in "Sowing Seeds in Danny" and "The Second Chance" has given the Manitoba rural community and its problems, while quite recently R. J. C. Stead has done the same for the farthest western prairie settlements in "The Bail Jumper".

Ralph Connor's "Glengarry School Days", "The Man from Glengarry" and the like deal with pioneer days in Ontario. The rural village

of Ontario and its relations with the surrounding community are most faithfully pictured in Adeline M. Teskey's "Where the Sugar Maple Grows".

II. *The Institutional Novel*.—This is very closely related to the first type, but in dealing with communities or localities it does so more particularly by considering them in their relation to what we may call certain "institutions" of our national growth or conditions. For instance, R. E. Knowles in his *St. Cuthbert's* makes the "institution", the Scottish Presbyterian church and all that this meant in Ontario's pioneer times, the dominating influence of the story. The life of the railroad and the construction camp is, in this sense, an institutional rather than a local or community life. It has been portrayed excellently by Warman and more recently by Frank L. Packard and Alan Sullivan. Under this classification might be put novels in which the work of the North West mounted police would furnish the leading theme; novels concerned with the assimilation of the foreigner or other problems arising out of immigration. If written from a certain view-point these would not in any sense be "problem" novels.

III. *The Novel of Organic Plot*.—In this the "story" is the main thing. Character drawing may be well enough done but it is subsidiary; description and local "atmosphere" are also mere stage settings for the plot. This is the nature of the fiction written by alien authors who use Canada as a literary background, Rex Beach, Harold Bindloss, Mrs. Humphrey Ward, Alice Jones and many others. Some of the novels of Ralph Connor are scarcely more than "organic plot" novels, their treatment of Canadian themes and institutions not being deep or broad enough.

IV. *The Character Novel*.—This is rather rare. "Anne of Green Gables" by L. M. Montgomery might be classed as a character novel although it has largely the elements of the community novel. The same is true of "Duncan Polite" by Marian Keith; here the personality of the lovable old Scot stands out clearly defined apart from plot or setting. Alan Sullivan's "Blantyre-Alien", a recent publication, is of this type.

V. *The Nature Novel*.—In this field Canada excels. The work done by Thompson-Seton and Charles G. D. Roberts in describing the denizens of the wild and their lives, either apart from or in relationship with the human family, has not been excelled, if it has been equalled in any other literature. In the domestic nature novel "Beautiful Joe" by Marshall Saunders has proved wonderfully popular, and in "Thoroughbreds" by W. A. Fraser, the racehorse is "done" into fiction in a vividly realistic fashion.

VI. *The Historical Novel*.—This was dealt with fully in a previous article.

VII. *The Humorous Novel*.—We have few examples of novels where humour is more than an accidental quality of the story but "Tag" by Valance Patriarche, and "Sunshine Sketches of a Little Town" by Stephen Leacock are two really humorous novels.

VIII. *The Problem Novel*.—There is nothing worth noting in Canadian literature under this head and that is something for which we may feel grateful. The novel that is a genuine success will teach lessons in the philosophy of life, but it will do so incidentally, and not because the author has set out to prepare a sermon.

This survey of the "fields of Canadian fiction" is not set forth as being complete. All that is hoped for it is that it has pointed out to you the peaks of the Canadian literary landscape, and that it will encourage you to study the details of these and other "fields" of Canadian literary endeavour for yourself.

"All Hands to the Pumps"

(Note on the frontispiece)

BY HENRY SCOTT TUKE, A.R.A.

A FEW questions on the frontispiece.

What does the flag tell us about the nationality and the condition of the ship? What other parts of the picture further emphasize this condition?

To whom is the officer speaking? What do you think he is saying? At what is the sailor in the rigging pointing? What are the sailors doing? Do the faces of the men show fear? or consternation?

What is the centre of interest? How is it made so?

Do you think the name given this picture appropriate? Can you give it another appropriate title. Why would you not call it "The Storm?" "Tempest-Tossed?" "The Wreck?"

Current Events

If we look back to the beginnings of this war, some six months ago, we notice some curious and significant changes in the point of view, particularly in Germany. From their point of view six months ago the great enemy was Russia. It was Slav versus Teuton; Russia alone was responsible for Germany's entrance into the war. As for Britain, her army was negligible, and the spirit of the people would never reach to the ideal of a nation in arms. Her boasted supremacy of the sea could probably be challenged. The invasion of Belgium was a military necessity but admittedly a wrong, for which recompense would be given when the military goal had been reached. But first the strength of France, brooding over the loss of Alsace and Lorraine and keen for revenge, must be broken. France could afford to wait, Germany could not. For Germany, rapid conquest was essential for her great strength lay in the fact that she was ready with men, munitions of war, and a perfect military organization. Such were current opinions in Germany six months ago. What are they to-day?

To-day the great enemy is not Russia but Britain. The real cause of the war, we are told, was Britain's jealousy of German commerce and of German empire. The little British army has grown by voluntary enlistment from 150,000 to over 2,000,000 men. It is no longer negligible. As for Belgium, we are told, she deserved her fate. She had already planned with England to seek England's support in a war with Germany. Moreover, France had been the first to violate her neutrality for French aeroplanes had flown over Belgian soil. If harshness had been shown to civilians, it was, we are told, because they refused to obey the laws of war. In the meantime, Germany has been successful. Not only is Germany intact and uninvaded, but she has annexed Belgium and extended her sea-board almost to Calais. She has fought her battles on foreign soil. Twice her battle-ships have bombarded English towns unscathed. Such are opinions current in Germany to-day. How far does the tale of events bear out the new views?

So far as the events of the month are concerned, the most important perhaps is the decisive defeat of the Austrians in Servia. Austria, needing all her force to stem the Russian advance, has definitely given up her Servian campaign. How Servia's success will affect the policy of the other Balkan States, we have yet to see. The most spectacular event of the month occurred on December 16th when a fleet of German cruisers and battleships sailed across the North Sea under cover of

night, and early in the morning bombarded Scarborough, Hartlepool and Whitby and then retired at full speed, and under cover of fog, to their own harbours. As the result of the raid, 103 English men, women and children were killed and over 400 wounded.

On land both in the east and in the west the armies seem to have reached a deadlock. We no longer read of advances or retreats of twenty or thirty miles, but of gains of 100 yards. To admit as much is to admit the failure of the German plan of campaign. The great advantages she had at the beginning are constantly diminishing, nor can they be replaced at will. The resources of the allies, both in men and material, are daily increasing. Germany is more or less in a state of siege; for such supplies as she draws from outside countries, she must depend on the business enterprise of neutral nations and she must pay war prices in gold.

The attempts of the allies to diminish these sources of supply have been so energetic as to call forth a spirited though friendly remonstrance from the United States with regard to British interference with the rights of neutral ships. The United States does not deny the right of search or the right to confiscate contraband cargoes on neutral ships, but she does object to unnecessary delay, involved in taking a neutral ship into port to conduct a search in a safer and more leisurely way and she does maintain that food supplies should not be detained and put into a prize court without the presumption that they are intended for the armed forces of the enemy or the enemy government.

Great Britain, in a firm but friendly reply, points to convincing evidence that most of the trade with so-called neutral countries is really destined for the military uses of Germany and Austria. Great Britain offers to present evidence that frequently cargoes of copper, aluminium, etc., consigned to neutral countries, are definitely destined for Germany. The figures showing the exports from New York for November 1913 as compared with those for November 1914, speak for themselves:

	1913.	1914.
To Denmark.....	558,000	7,101,000
To Sweden.....	377,000	2,858,000
To Norway.....	477,000	2,318,000
To Italy.....	2,971,000	4,781,000

Moreover, owing to the great size of modern ships, it is impossible to make a thorough search at sea. The cargo must be unloaded and in some cases even weighed, *e.g.*, to see that bales purporting to be cotton are not composed mainly of copper. Then, too, ships of war cannot loiter in the vicinity of hostile submarines while a vessel is being searched. The question is one of the greatest importance to the allies, as it seems

more and more evident that the nearest road to success lies in the exhaustion of German resources and munitions of war. The conditions are new and new rules must be made.

Much interest to-day settles in the attitude of other countries hitherto neutral towards the war. Russia's defeat of the Turkish army and Servia's triumph over Austria will have their effect. If Turkey is to disappear from the map, the Balkan question will open again and every nation in Southern Europe is vitally interested in the disposition of Turkish territory. Bulgaria's sympathies are doubtful, but Roumania will stand with Russia. Roumania and Greece can hold Turkey. If Italy joins the allies, she will bring to their aid a large and experienced army and will close an important channel of neutral commerce to Germany.

College Student—Roses are red, violets are blue. Send me ten dollars and I'll think of you.

Loving Father—Some roses are red; others are pink. Enclosed find ten dollars, I don't think.—*American School Board Journal*.

"What is your name?" asked the teacher, as she was taking the roll call of her new class, before disbanding for the summer.

"It's Jule."

"No, not Jule, but Julius," said the teacher, for she disliked abbreviations. "Next boy, what's your name?"

"My name's Bill, but I suppose I ought to say Billious."

Teacher—Can you multiply concrete numbers by concrete numbers?

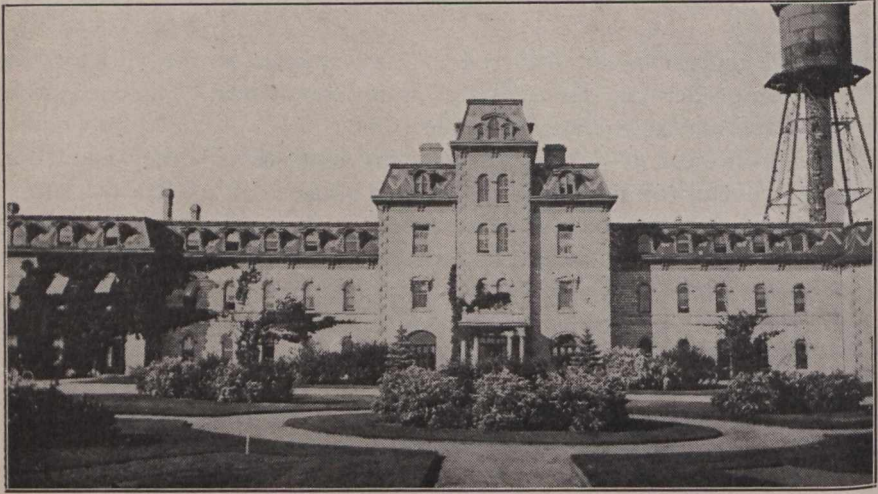
Small Boy—Yes, ma'am.

Teacher—Well, suppose you were to multiply a dozen apples by eight ounces of meat and three ounces of raisins, what would the product be?

Small Boy—Mince pie.

A side-light on character comes from a cooking school by the way of the *New York Times*.

"There are women," said the instructor, "who, when the recipe calls for a teaspoonful of hot water, will go to a teakettle and attempt to pour the water directly into the teaspoon."



Summer School for Teachers at the O.A.C., Guelph

MRS. HARRIET B. MILLER

Assistant in Agricultural Education, Ontario Agricultural College, Guelph

TO those who have attended even one session of the Summer School for Teachers at the Ontario Agricultural College, Guelph, the wonder is that teachers in country schools throughout the province should be so slow to take advantage of the training this course affords them. Such a course enables them to keep abreast of the new movement in education, and to fit themselves for their work in the revised curriculum forecast for the schools of the near future.

While classes are increasing in numbers each year (the Summer Schools have been held since 1904), it is surprising that so small a percentage of the teachers of the whole province have taken advantage of this since the classes are held during the summer vacation, at a nominal cost for board, no tuition fee, and an environment so ideal as to make one look back on it as a delightful holiday and regret only that it did not last longer.

Those who hesitate to take this course because they feel the need of rest instead of work if they are to be ready for the demands of school work again by September, and think the two months' vacation little enough time for recuperation, might profitably remember that "A change of work is as good as a rest." And to do full justice in this case venture on an amendment to the time-honoured maxim and make it read: "A change from the old tread-mill in-door-work to the new out-of-door-school is the most worth-while kind of rest." And then, think of the joy of being "the other fellow" for a time, the one taught and not the

teacher. How attractive! How alluring! What is it that uses one up so completely, that one often wonders as the school year draws near its close if the supply of patience and nervous energy will really last out? Is it not that one feels one's self a sort of "fool's purse, a guinea going out to a penny going in" all the time? Have we not been gorging the poor children with over doses of knowledge—forgetting that knowledge is not education?

"Keeping to the programme of studies" has done its worst on both pupil and teacher, and the teacher has need of a new outlook, a new direction of effort, a training in methods, and above all a new conception of the aim and purpose in all this wearing struggle and work.

CHARACTER OF THE COURSE.—The object of the course is to train teachers in subjects bearing directly on the problems of agriculture and the work of school gardening. The instruction is given in lecture-room, laboratory, workshop, garden and field, the theory and demonstration of the lecture and the laboratory illustrating the out-of-door practice in all, the needs of the pupils in the rural schools being kept always in view.

The whole college equipment of garden and orchard, farm and experimental plots, stables, workshops, museum, campus, greenhouses, laboratories, forest nurseries, dairy and poultry farms is at the service of students for observation, in addition to the findings of the experts during all these years of research and experimenting in the college laboratories and grounds.

Most of the instruction is of a practical nature, and much of it is given out-of-doors. It embraces school gardening, each student having a plot where he is taught to prepare the ground, plant and care for several vegetables and flowers, and to lay out a school garden. In horticulture practical lessons are given on the propagation of plants by cuttings, planting of bulbs, potting and general care of house plants. In botany there is instruction dealing with weeds and weed-seeds, diseases of grains, vegetables and fruits, grasses and farm crops. The animal studies include work with insects, birds, farm animals and pond life. In physical nature, meteorology and astronomy are studied.

The foregoing is supplemented by lectures on country life and the industrial phases of education, and visits are made to local industries in Guelph to learn how urban activities are inter-related with those of the farm. Picnics are made to points of interest in the neighbourhood and vicinity, to Elora, Rockwood, Brampton, Brantford and Niagara Falls.

By no means the least of the pleasure and profit of this course comes from the assembling together of teachers from every county in the province and the friendly interchange of thought and teaching experience.

How to secure Rapidity and Accuracy in Mechanical Arithmetic

MARGARET MARCH
West Lorne

TO secure rapid work constant drill is necessary and many devices must be used to keep the work interesting and hold the attention of the pupils. In addition mental work on the combinations each day keeps the work fresh in the minds. Some devices which are helpful are:—Putting pairs of numbers on the blackboard and having pupils give the sums as the different pairs are pointed to; drawing a circle on the blackboard, putting different numbers around the circumference and one in the centre. Point to the centre number and one of the numbers on the circumference and have the pupils give the sum. These may be used in drill in multiplication, subtraction, and division. Putting a column of figures on the board and erasing quickly aids in rapid work. Having pupils prove their work in subtraction reviews addition and secures accuracy. Having pupils multiply by factors when possible secures rapidity.

In taking up questions in which the multiplier contains several figures, as 978, have the pupils watch the blackboard and be prepared to give the numbers in the partial products instead of asking one to multiply by 8, then by 7, then by 9.

To secure rapid work in division the same devices as used for multiplication and addition may be used. In taking up long division with a class have pupils begin dividing with two numbers in the divisor. When they know the number of times the divisor is contained in the dividend, have them multiply mentally the divisor by the number of times it is contained and then find the remainder. For example, the divisor is 63, the dividend 4964. They tell you that 63 is contained in 496 7 times. Now have them tell you what 7×63 are. Then have them tell you the remainder. After learning to divide by two numbers in this way they are soon able to divide having three numbers in the divisor; then more. When time will permit all questions should be proved to secure accuracy.

Pupils should learn to use any methods that will shorten the work such as, that multiplying by 10 or some power of 10 is simply adding as many zeros to the multiplicand as there are in the multiplier. In dividing by 10 or any power of 10, instead of adding numbers to the multiplicand they are taken away and where the divisor is not contained an even number of times the part taken away is the remainder. Learning that, when multiplying by 25, the product can be obtained by adding two zeros to the number and dividing by 4, shortens the work for pupils as it can be done mentally and more quickly.

Our Rural School Fair

M. IRENE McLEAN,
Plum Hollow

THE value of the school fair is not found simply in the awarding of prizes for the best exhibits of this or that so much as in the long and careful planning and systematic training of pupils according to definite requirements.

The Ontario Department of Agriculture is giving invaluable assistance in developing this idea and through its district representatives in various sections, and by generous contributions of seed and prizes for competition is stimulating the interest of many rural schools hitherto uninterested in school garden work.

I may best illustrate this by detailing some features of the first Rural School Fair in the county of Leeds and Grenville held at Plum Hollow, Oct. 7th, 1913. Early in the year six schools adopted this movement and under the direction of Mr. W. C. Smith, B.S.A., district representative of the Ontario Department of Agriculture, received seed furnished by the department. Siberian oats, barley O.A.C. No. 21, and Empire State potatoes were given out in this way to pupils who agreed to enter the competition. The fact that the department supplied seed from the same samples and laid down rules for its planting, etc., insured absolute equality and fairness.

All were instructed that barley and oats must be sown by hand in a plot of exact dimensions. Careful notes had to be kept of the progress of the plot, the crop had to be threshed with a 'flail' and the cleaned grain carefully measured. No information regarding the best methods of handling the plot was supplied but the boys and girls were directed to many sources from which to obtain such information. The pupils who received seed had to exhibit at the school fair whether the results were good or bad.

The conditions of competition for potatoes were particularly interesting. They demanded considerable ingenuity on the part of the pupils. The pupils undertaking the work were each supplied with six small potatoes. In cutting these potatoes each pupil had to produce fifty-six sets each having one or more eyes. The pupils had to observe carefully the situation of the rows and hills, as this was exactly stated by the department. The pupils' judgment was required in selecting from the

crop the marketable and unmarketable potatoes and also in choosing the twelve best potatoes of the entire yield for exhibition.

The remarkable interest taken in the competition was shown in the number of pupils competing and in the exhibits shown at the fair.

Over three hundred entries were made by forty-eight pupils. The fair was held in two large tents, one for the exhibits and the other for office work. By noon the large tent was well filled with exhibits that would compare favourably with those at larger fairs. It took four judges two hours to place the awards.

But the competition was not confined to exhibits of oats, barley and potatoes. There were excellent exhibits of needle work and cooking made by the girls under fifteen years of age. Live stock and poultry were exhibited by the boys. Fruit was about the best filled class of all and excellent specimens of numerous varieties were brought out. Collections of weeds, weed seeds, insects, insect injury, plant disease and injury which would do credit to students of an agricultural college were also on view.

While judging was going on a programme of sports was run off before a crowd of four hundred people. Dinner was served in a neighbouring grove in picnic style. When the large tent was thrown open, however, the interest of the pupils and parents alike centered in the success of the exhibits.

The special sweepstake prize which was presented to the school scoring the most points was a great incentive towards special work. All wishing to enter for this prize notified the district representative about a month before the date of the fair. This prize was a beautiful shield given by the Department but the school has to win this prize three consecutive years before it becomes the permanent property of that school.

The following is taken from a report given by one of the teachers connected with the work of the Rural School Fair. "The school fair brought our garden work to a happy ending and will doubtless prove a great stimulus to the children for the coming year." The less successful pupils were heard to remark, "I tell you I'll manage my plot differently next year." Some of my seemingly dull pupils carried off the best prizes. The parents also were pleased and interested in the pupils' work.

The school fair affords us a means of bringing our work in agriculture before the public both at the fair itself and in the local papers. The school has become a social centre, kindlier feelings prevail among the people of the section and the interest it has created has induced in this case four other schools to undertake school gardening and the teaching of agriculture and to engage in the competition at the Annual School Fair of 1914.

Primary Reading

MRS. H. C. BRANION,
Dunnville, Ont.

THE subject of Primary Reading is the most important one on the whole curriculum because upon it is based the child's knowledge of most of the other subjects, and a child who begins by simply saying words—not reading intelligently—is greatly handicapped in all his future years at school.

Quick recognition of words and the proper expression of the thought which the sentence conveys are the two important things in which we must strive to make our pupils efficient; therefore, a great deal of the beginner's time should be devoted to reading or to some exercise leading up to reading.

When the class of beginners comes up the teacher may ask them this question, "How many came early this morning?" Sometimes some one has been late and then the teacher asks him what he should do when he finds he is late. He will generally say "run". If no one has been late let the teacher commend them for being on time, but ask what they should do if they think they are going to be late. All kinds of answers will be forthcoming, but the child must be able to talk before he can be expected to read, so this conversation is just what we need.

After this talk and when the teacher has succeeded in getting the word "run" from some one, he should ask how many can do that. Then let every child run, be it ever so short a distance. Then let the teacher tell them she will show them how the chalk says "run". Write "run" several times on the board. Then let the pupils try it. Sometimes it takes three or four days to get it written at all legibly, but another word should never be undertaken until the children know "run" in script wherever they see it and can also write it legibly without a copy.

Next teach them that "run" is made up of two little boys and one little girl. (In this way, by calling "r" and "n", boys, and "u" a girl, etc., they have soon learned the vowels and consonants without having heard those names). Then let them spell run—r—u—n; for reading and spelling cannot be separated in primary classes.)

When they can spell run we are ready to go on, and as "Sam" comes on the first page of the Primer, teach it second as follows:—Let the teacher write "run" on the board and ask what it is. He will get an immediate reply. Then ask who can do that. All can. Then tell them about a picnic where there were several little girls and boys. There were races at this picnic. (In order to awaken interest the teacher should ask how

many have been in a race). Who could run faster than any of the other boys? He got a prize. They will be full of interest now and when the teacher asks how many would like to know this boy's name, they will all be ready for it. Tell them this boy's name was "Sam", then show them how the chalk says it.

If there happens to be a "Sam" in the class it would be much better to get the word in that way. "Sam" should be taught just as thoroughly as "run".

Then we are ready for a third word, and "can" is a most convenient one to teach next, for with it we can make a sentence. Now we can make this little story—"Can Sam run? Sam can run. Run Sam".

Write the story on the board one sentence at a time.

Never allow a child to read badly, because bad habits in reading are no more easily broken than bad table manners, or any other bad habit. Many teachers accept poor reading from beginners just because they are small and the teacher thinks she should not expect too much from one of such tender years. This is mistaken kindness, for the small child delights in doing his work properly just as much as the older ones do. If he does badly at first show him where he is wrong and help him to do better.

If we have taught the words thoroughly the children grasp the idea conveyed by the sentence and should be able to express it properly. When the first sentence is written on the board for the class to read, the teacher should tell the pupils that she is going to write a little story which they are to *tell* her—or as people *say*—read to her. Tell them they must read just as they would talk, for this reading is only talking, but in reading you are not talking your own thoughts but some one else's. Always impress the idea that reading is just talking. Personal experience has taught me that many children do not think reading is to be expressed in anything like the same way as we would talk. If you do not get the correct expression, a few questions, along the right line, will soon get it for you.

After reading the story teach other words such as "I", "see", "hop", "boy", "girl", "and", "it", "is", etc., by the sight method, in order to have a greater variety of sentences. Use these words in as many sentences as you possibly can. Make use of the period and question mark right from the first sentence. Do not attempt to teach the names of these but tell them that the round mark is used at the end of each story that does not ask a question and that the other mark is used when a question is asked. When a question mark is used make them read to show that it is a question. A sentence "Can I hop?" was placed on the board for the beginner's class. A boy read it "Can I hop". When

told to ask that he read it properly. Somet mes it is quite hard to get the pupil to ask the question but when all other plans fail the teacher should read it properly for the child.

When the class have mastered ten words the teacher should introduce phonics, for phonics help the child to help himself. Teach the sounds in the order given in the Primer for this. The first page has the sounds of the letters "s", "m", "a". As they know the word "Sam" the sounds of these letters are easily gotten by analysis. When they know these sounds, which must be thoroughly taught and drilled upon one at a time, we build up the words "am" and "ma". As we proceed with new words by the sight method, teach the sounds given at the foot of each page, and make up as many words as possible which include all the sounds they already know. For example page 6 of the Primer introduces the sounds of "t", "p" and "ee". They already know "hop" so we must analyse it to get the sound of the letter "p". Then we make the words *map*, *maps*, *pa*, *sap*.

They know *see*. By analysis we find the sound of *ee*. Then we make *seem*, *peep*, *peeps*. As they have had nothing with *t* in it show them a picture of a mat, and then teach the word *mat* as a sight word. By analysis get the sound of "t". Then we make the words *mast*, *stamp*, *past*, *mats*, *meet*, *meets*, *teem*, *teems*, *steep*. Drill on these words in lists as words alone. Then make use of them in sentences written on the board. Let the children whisper these to the teacher and do not accept these as correct unless the proper expression is given. Any word on any page which the child cannot get by the phonic method as yet, and which he must know at some future date may be taught by the sight method.

Although we are following the Primer to a certain extent in our choice of words to be taught we should not let the children use the Primer until we have mastered nearly all the words over to page ten. Then let the child begin to read at the first page and he will read quite readily. This serves as a review for him too. As the sound of a letter is taught, teach also its name and the printed form of both small and capital letters. Impress the printed form by letting the pupils find the letter which they have just learned in a newspaper, marking each one they find. This is a splendid busy work exercise.

After we reach that part of the Primer where the lessons are written in print (and this takes quite a long time if we have taught as we should so that the pupils are in a position to help themselves) we get along much faster. Teach all the words we can by the Phonic Method. There are lists of words, given in the Manual, for each lesson over as far as page 28, that can be recognized by the child because he already knows the elements of the words. Then there are lists of new phonic words to be

taught. Have a phonic drill by writing the words on the board and sounding them as we go along. Then let each child read the list. Follow this by pointing here and there through the list to test the child's knowledge. Then make short sentences using these words and let pupils read them.

After this come the new words in the lesson which are not phonic. In order to teach these compose an interesting little story which contains not only some of the new phonic words, but also these other new words, which are in the lesson. Write this on the board and ask the pupils to read silently. If they find any words they do not know, point them out and tell what they are. Then read orally. After the story has been read let the teacher point here and there rapidly, and have the pupils name the word. This aids in quick recognition of words. Now we are ready for the lesson in the Primer, which is read orally. After the reading, an individual drill or test of the pupil's real knowledge is a good thing. Do this by covering with both hands all but the word the pupil is to name. This is quite important for pupils have been known to read or apparently read a whole page and not know one single word on the page. Some may think this a needless waste of time, but I have found that small children need very thorough teaching if they are to retain any great amount of what you have been endeavouring to teach them. It is well to insist on the accurate spelling of the words before leaving a lesson. Alternate phonic work and reading from the Primer. While reading one lesson have the phonic work for the next lesson in preparation.

After reaching page 28 the teacher must prepare her own lists.

Proceed in this way until we reach page 50, and as the pupils are then familiar with all ordinary sounds it is not necessary to have the phonic drills to prepare the pupils for a lesson. The phonic work may be given in the form of busy work to be done on the slates.

If the new words are taught by the story method, the pupils will go right along.

It is well to have reading from the Primer or phonic work leading up to reading at least twice a day and supplementary reading once a day—of course the very small tots cannot read for themselves, but the teacher must read for them. Always find something interesting, and read it in the best possible manner. Teachers should always do their best reading before the class, for it is an old saying that teachers who read well usually have pupils who read well and vice-versa.

Mr. Heyrak—"Is Willie home from school yet, maw?"

Mrs. Heyrak—"Must be. I see the cat's hiding under the stove."

The Youthful Critic*

VARIOUS sections of the community sit in judgment on the teacher. The Board of Education, the governing body, and the public in general are never niggardly with suggestions and advice. But the only fully equipped critic is the man, or rather the boy, on the spot. "He knows about it all; he knows". And not even the most bigoted can accuse him of partiality. He attacks the subject with a mind free from settled prejudice—he belongs to no coterie; tradition has no effect upon him. The educationalist who reads the arguments of thirty students on such a subject as "The Advantages and Disadvantages of being a Teacher" cannot fail to be impressed with the wealth of new and original thought displayed. The pages scintillate with suggestion.

At first I made the suggestion that one row of boys should write about the advantages and the next row about the disadvantages. But, as Whitworth respectfully pointed out, this was very unfair to one-half of the class. He himself could think of "many a hundred" advantages, but only two disadvantages. "Yes, sir," assented his thirty colleagues, giving the rein to their indignation. So the subject was altered to secure equality all round. About a quarter of an hour later one of the boys sat with his elbows on the desk and his chin resting on his hands. He looked the picture of misery. "What's the matter?" I asked. "Are you not feeling well?" "I've just finished the advantages," he replied, "and I'm trying to think of the dis——." "That's right," I interrupted; "keep on trying."

The boy who said that "teachers are very useful for educating people" was building on bed rock. He understands the teachers' *raison d'être*, surely an essential for an educational critic. Equally generous but not quite so penetrating was the opinion that "the teacher was looked upon as a great acquisition to the educational world." This boy generally writes good English, but he is very young. The opinion of the public is much divided as to the amount of salary that ought to be paid to a teacher. One youthful observer says, "He gets good wages in comparison with the work done." To the uninitiated this statement is rather vague, but there is no mistaking the emphatic assertion of a girl that "the teacher does not need to work hard for his living." It is even more comforting than the knowledge that "if you are tired you

**Manchester Guardian*, January 9th, 1914. By kind permission of the proprietors.

can rest," or that "you are not forced to rise early." Most satisfactory, however, from the teachers' point of view, is the assurance that "the work does not require very good health." What further argument is needed to prove the truth of what Shakespeare said about adversity. Added to these advantages is the fact that "although teachers soon look old, they only die young occasionally." I have it on the authority of the son of an insurance agent that "teaching is not a very dangerous occupation."

One boy's essay began, "When one is a teacher, he or she is greatly involved in knowledge." This sentence still puzzles me. At first I decided that the boy's real thoughts must have been expressed carelessly, but the precision with which he finds a singular subject for a singular verb makes me doubtful. And, although young, he has a keen sense of humour. When I asked him what "involved in knowledge" meant, he replied, "Stuffed with learning." If only he had written "steeped" instead of "involved" I could have understood him.

Some remarks were very gratifying. A sentence like "They use better grammar than ordinary people" not only pays a graceful compliment to the teacher, but is a gentle reminder of his social standing. Nobody likes to be called an ordinary person. A correct understanding of the teachers' authority, with a keen grasp of its limitations, is expressed in the sentence, "He has his own way as far as pupils go," but it is not quite so double-edged as "They wear black gowns and are looked upon with dignity *by little boys* in school." It will be ten years before the writer of this sentence reaches manhood, so it is evident that his little boys must be small indeed. A few students intend to enter the scholastic profession—one because teachers are able to make speeches, and another because "they do not get through the same amount of clothes as in other professions."

In spite of the initial protest, quite a large number of disadvantages were written down, but it was evident that the big majority of pupils had written them under pressure, and not because they considered them worth mentioning. There was one notable exception, however. "The worst of being a teacher is that you must always look respectable." Having known the boy who wrote this for at least three months, I feel convinced that his lament is not mere padding, but wrung from the depths of his heart. A very small girl said, "It must be awful stuffing knowledge into numb children." What though her metaphors are mixed, her heart is right. The big majority of the disadvantages might be classed roughly under two heads:—(1) Health considerations. (2) General inconvenience—but at least two-thirds of these are placed in class 1. The damage to health is never quite serious enough to result

in a total stoppage of work, but it certainly calls for serious consideration. It is gratifying to know that a few of the evils may be prevented, for not every teacher is aware that "sometimes consumption is contracted by leaning over the varnished desk." Here the remedy is obvious. The finality of another boy's dictum loses its sting in his closing sentence; "His health will soon break down with studying, but he may often spend most of his money in resting." Other symptoms are irritating, but not grave. Nearly all agree that marking exercises must be tedious. A girl states the case very graphically. "He may be marking books till midnight with a head fit to split, but I fancy such cases are very rare." Several had noticed the continuous strain on the teacher's voice, but another aspect of this had escaped all but one boy, who wrote, "A considerable portion of the teacher's income is spent on lozenges and cough-drops." A more unsympathetic youngster informed me that at his last school the teacher sometimes lost her voice and made a noise "nearly like a crow." "We used to double up with laughing," he continued, "and then she got mad and could do nothing but croak."

Quite as alarming from a girl's point of view is the opinion expressed that "a lady teacher has no time to learn housework or cookery." But even this is not so serious as the fact that "lady teachers very often do not get married." It was no use protesting to the writer that she had exceeded the limits of criticism; she could quote too many instances that had come under her own observation. After this it hardly seems worth while mentioning that students call you nicknames which make you uneasy, that chalk dust is apt to get in your nose and ears, and that a great responsibility rests upon you. But most of it is true.

HER IDEA OF IT.

PLAYING "teacher" is one of the most common expressions of the ambition which every little girl has at some time during her school life to become a teacher when she grows up. Usually this ambition is confided to playmates and parents, but occasionally an instructor who has won the love of her young charges hears it.

A Minnesota teacher relates how she was shocked not long ago by the ambition of a little girl.

"When I get big," the child declared, shyly, "I'm going to be a teacher."

"That is splendid, Sally," said the teacher. "But, why do you want to become a teacher?"

"Well," was the astonishing reply, "I must either be a teacher or a lady, and I'd rather be a teacher."—*American School Board Journal*.

Suggestions for the Class-room

In a "rapid-advancement class" in Boston, composed of the 36 brightest pupils of the fifth and sixth grades, and placed under the direction of one teacher from entrance to completion of course, the children finished all the work of the sixth, seventh and eighth grades in a year and a half. Only one hour a day was allowed these pupils for outside study.—*School Journal*.

How well I remember the endless, dull, deadening grind of geography in the district school—the wearisome map-making, the everlasting parrot-like telling over and over of boundaries, cities, rivers, mountains, industries and productions. Oh, man is the only animal on the face of the earth that compels its offspring to learn for the pure torment of learning. From all this dull black misery of useless memory cramming just one bright star, to me a star of hope and inspiration, shines in my soul even to this day. One teacher, her name was Miss Hunt, told us that *she did not know the source of the Nile!* that a great many had tried to find it, but could not, that she did so wish somebody would discover it. This was the only thrill I got from all the years of geography. It kindled my infant soul and I vowed then and there, "when I got big," I would discover the rising place of the river Nile.—Clifton F. Hodge in *Nature-Study Review*.

A schoolroom in the Chicago Normal School has been so arranged that pipes conduct warmed fresh air to every pupil's desk, and the foul air is taken out at the ceiling. This experiment is styled the "natural method". It is certainly revolutionary.—*School Journal*.

COMPLEMENTARY COLOURS.—Mr. L. Might, B.A., Principal of Markdale High School, sends the following: Complementary colours are two coloured lights which when mixed give white, but when teachers of art mix complementary-coloured pigments and do not get white they usually lay the blame on the paints and explain that the pigments act chemically on each other. The paints, however, are quite rational in their action because two complementary-coloured pigments when mixed should give and do give *black*. The explanation is: a red paint is red because it absorbs all other colours except red and reflects this; a green paint is green because it absorbs all colours except the green which it reflects. Thus when red and green paints are mixed they absorb all colours and there is no colour left to reflect; hence black is produced. *Note*—a thin wash of black on a white paper gives grey.

Hints for the Library

Teaching the Common Branches, by W. W. Charters, Ph.D., Professor of Theory of Teaching and Dean of the School of Education, University of Missouri. 355 pages. Houghton Mifflin Company. This book is a text on the theory of teaching for students and for inexperienced teachers, particularly in the rural schools. Each of the different subjects in our course of study is treated separately and a general statement given in the last five chapters of the book. Dr. Charter's first hand knowledge of rural conditions and of the needs of the rural school teacher on the one hand and his comprehensive grasp of educational principles on the other has enabled him to write a book that should find a place in the library of every rural school teacher.

F. E. C.

A Practical Course in Intermediate English, by Edward Albert, published by George G. Harrap & Company, London. 268 pages. Price 48 cents. The author has a two-fold aim. The first is to give a comprehensive survey of the work being done in English as far as the intermediate stage. Hence grammar, syntax, style, composition, prosody, etymology are all dealt with in their logical order. His second object is to make the book thoroughly practical and he does so by the use of numerous fresh examples and exercises.

H. G. M.

Kitecraft. This is a book on the making and flying of kites and aircraft of all kinds. For the teacher who wishes to interest his pupils in this most fascinating exercise of building kites and aeroplanes the book is excellent. There are chapters on the various kinds of kites, aeroplanes and balloons, describing their construction and regulation. The illustrations are numerous and are of much value to the pupil in understanding the text. The book is well worthy of a place in every manual training library. Manual Arts Press. 144 pages. Price \$1.00.

A. N. S.

A First English Grammar, by John Wallis. G. Bell & Sons, London. 75 pages. Price 25 cents. The book is "designed for beginners". Its nature precludes its performing the mission. It is a concise statement of the points of English Grammar but is lacking in exposition. It will be of use to the teacher. To see a subject well summarized often helps greatly in placing the separate facts to be taught.

E. L. D.

Progressive Précis Writing, by H. Lotter. Blackie & Son, London. 214 pages. Price 80 cents. The book is intended for the Army Schools of Britain, where despatch-writing is of first importance. Teachers in High Schools will find the exercises well chosen to help them in giving practice on the principle of concise statement.

E. L. D.

Graded Writing Textbooks.—Books 1-8, by Albert W. Clark. Ginn and Company, Boston. This series comprises eight books of slant copies to be written by the pupil on separate sheets of paper. Each page gives detailed instructions for teaching the copies thereon. Numerous additional notes on the teaching of penmanship will be found throughout the series. The method does not involve practising ellipses or similar movement exercises. Book I., 8vo., paper, 48 pages, illustrated, \$1.60 per dozen.

W. L. C. R.

Booklet Making.—The Prang Company. 48 pages. This is a very artistic little book by Henry Turner Bailey, Editor of the School Arts Book. It discusses and illustrates very fully the problems of planning, arranging and making a booklet. It is written by one who knows the problem in a practical way, and who, at the same time, shows the teacher's instinct in his method of presenting the work. For the instructor who wishes to lead his class through the various steps of planning, writing, illustrating and arranging the material of a book, and then designing a suitable cover and binding the volume in an artistic fashion, the work is excellent.

A. N. S.

Workshop Note-Book—Woodworking.—By George G. Green, Instructor in Lane Technical High School, Chicago, Ill. This is a small loose-leaf book of 24 pages of text, with additional blank sheets for notes and working drawings. In addition to being a note-book, it has something of the character of a textbook. It briefly describes and illustrates the uses of the principal wood-working tools in such a way as to emphasize and impress the class instructions of the teacher. The use of such a book by the class will prevent the teacher's instructions from being forgotten, and will materially assist the pupil who happens to be absent when the instruction is given. One might wish that the writer had extended his notes a little further. The Manual Arts Press, Peoria, Ill. Price 25 cents.

A. N. S.

Canada—To-day and Yesterday, by David W. Oates. Published by Messrs. George G. Harrap & Co., London. 205 pages. Price 30 cents. The author's aim is to present some of the interesting aspects of the story of Canada in the form of a series of adventures so written as to appeal to the young reader. To this end he has made use of the journals of pioneers, explorers and travellers, and quotes copiously from them. The result is a splendid collection of detailed Canadian History stories that forms a valuable little supplement to the ordinary school text.

H. G. M.

Isaiah XL-LXVI.—Revised version edited for the use of schools, by Rev. John Skinner, D.D. Published by the Cambridge University Press, London. 137 pages. Price 40 cents.

Medical Notes for School Teachers, by C. W. Hutt, M.A., M.D., Cantab., D.P.H., Oxford. Published by Edward Arnold, London. 122 pages. Price 25 cents. Teachers will find these notes excellent. They have been written to encourage co-operation between the teacher and the doctor in the work of promoting the health and welfare of school children. They deal as briefly as could be desired with all the conditions any one is ever likely to have to face in the school

H. G. M.

The Bible of To-day, by Rev. Alban Blakeston, M.A. Published by the Cambridge University Press, London. 240 pages. Price 75 cents.

Business English, Practice Book. By Rose Buhlig. Cloth, 386 pages. Price \$1.10. D. C. Heath & Co., Boston. The author's aim has been to teach the art of using words in such a way as to make people think and act. "In business English the tools are right words and sound ideas. We must search for the one and develop the other." And to assist the student in this search and development, Miss Buhlig deals with her subject under three headings: Word Study and Grammar; Composition, Oral and Written; and Composition Business Groups. A great deal of information about modern business methods is found in the book, and the exercises are all practical and well chosen.

H. G. M.

Crop Production, by C. M. Weed and W. E. Riley of the State Normal School, Lowell, Mass. Published by D. C. Heath & Co. 246 pages. Price 75 cents. This is an agricultural text book for High Schools. It is divided into four parts: vegetable, flower, fruit and farm crops. "The book gives the essential facts concerning the history, characteristics, culture, diseases, and enemies of practically all the crops grown in the United States and Canada. There are about fifty separate discussions. Work for the student is planned with soil, seeds and plants. The matter is interesting, clearly stated, and supplied with numerous splendid illustrations and charts. The book should prove a valuable aid to all teachers of the subject.

H. A. G.

Geographical Pictures, from photographs. Edited by S. M. Nicholls, M.A., F.R.G.S. Published by A. & C. Black. The Macmillan Co., Toronto. Price 6d. per packet. Teachers of physical geography will be delighted with these excellent pictures. They are 11 by 16 cm. The quality is all any one could desire. The topics covered are: crustal movements, sculpture of the earth's crust, glaciers, mountains, valleys, lakes. Each packet contains but six pictures, with from two to three packets per topic. Descriptive notes to accompany each series of pictures will be supplied to teachers on application. Any six pictures, or six on one subject may be obtained in one packet. The actual size of the sheet is 17 by 22.5 cm.

H. A. G.

Notes and News

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

The March issue of *The School* will be a special "War Number". Its aim will be to furnish definite and well-arranged material for the use of those who wish to keep their students well informed concerning the present world-struggle as well as those who are preparing students for examination on this part of the work in history. Teachers will find this material (which will be continued in subsequent issues) a reliable source of information for class use. Lists of the best books on the subject will also be furnished.

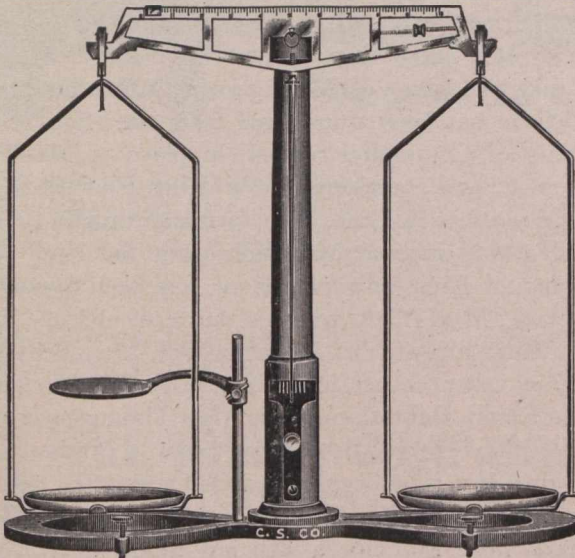
Changes in Public School staffs taking effect at the beginning of the term: Miss S. M. Culp, Collingwood, to Galt Public School; Miss Lola Whimster and Miss Irene McKenzie to Minnedosa, Man.; Miss M. O. Seymour, of Port Arthur, Miss Florence Sinclair of Parry Sound, Miss Ulla Hardy of Durham, Miss Mary Barrett of Toronto, Miss Bessie Travers of Oshawa, Miss Annie E. Scott of Meaford, Miss Muriel E. Paul of Napanee and Miss Annie E. Coulthart of Waverley go to Fort William; Miss Alice Cossar, Miss Gertrude Johnson and Mr. F. M. Pringle to Killarney, Man.; Miss E. Hamilton, of Toronto, to Brantford; Miss H. E. Lee of Columbus to Whitevale; Mr. John C. Hawley of Camden East to Southampton; Miss Joyce Bryant of Elmvale to Hamilton; Mr. J. H. Snyder of Keelwood, Man., to the principalship of Newdale Public School.

Changes in Continuation School staffs: Miss Georgia Davidson of Arkona to Melbourne Continuation School. Miss Alice Stinson of Dresden to Shelburne. Mr. R. J. P. Gauley of Leamington to teach science and mathematics at Cookstown.

Changes in the staffs of High Schools: Miss Lena Dufton of Listowel to teach classics in Weston High School. Mr. S. D. Kestenbaum of Winnipeg to teach languages in Roland, Man.; Miss Reta M. Crowe of Guelph to teach household science in Galt; Miss Pearl E. Payne of Jellyby, Ont., to Gravenhurst; Miss Edith A. Lott of Sarnia to Amherstburg; Miss Grace Gillespie of Campbellford to teach Latin and moderns at Gravenhurst; Mr. H. Perkin, Swan River, as principal at Battleford, Sask.; Miss Lola McLeod of Toronto to teach art and junior English at Sudbury; Mr. L. Might, B.A., of Gravenhurst as principal of Markdale; Miss K. VanderWater of Belleville to teach Latin and history at Uxbridge; Mr. T. M. Henry, B.A., of Morrisburg as principal at Iroquois; Miss Mildred Belton of Kingston to Windsor.

Mr. J. S. Thomas of Waterloo has retired from the teaching profession.

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Changes which have taken place in the teaching staffs of St. John, N.B.: Leave of absence has been granted to Mr. Charles Lawson of the High School staff, who has volunteered for foreign military service. Mr. Wm. H. Parlee, principal of Centennial School, resigned after being on the city staff about thirty years. Mr. Grover Martin has been promoted to take the place of Mr. Lawson during his absence. Mr. Arthur W. Hickson has been transferred from the High School staff to the principalship of Centennial School, in place of Mr. Parlee; Mr. Stuart Henry has been transferred from King Edward School to the High School; Mr. John R. Gale, who formerly taught in Alberta and British Columbia, will succeed Mr. Hickson at the High School; Miss Elizabeth Adams, of King Edward School, has been appointed to take Mr. Henry's place; Miss Allen, who had leave of absence, has resumed her position at King Edward; at Albert School, Miss Beulah Knowlton of Centennial has taken charge in succession to Miss Gregory who has resigned. Miss Emma Babbitt succeeds Miss Thompson, having taught in the city over thirty years; Miss Gladys Shaw, a graduate of the High School who holds a first-class license, has been appointed reserve teacher; at Alexandra School Miss Elizabeth Keirstead, formerly a reserve teacher, succeeds Miss McLennan who has taken Miss Kelly's place, Miss Kelly having resigned; Miss Margaret Graham, of Winter Street School, has returned from her leave of absence; at St. Peter's Girls' School, Sister Adrienne has been appointed to take Miss Hogan's position, the latter having retired.

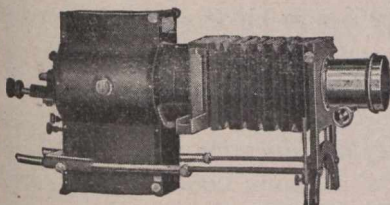
Miss Ruth Penfield Sill of Columbia University has been appointed director of domestic art in the Toronto Technical School at a salary of \$2,000.

The Department of Education for Alberta has arranged to provide technical education for the coal miners in the various parts of the province. Schools have been established at the mines and are operated when possible in connection with local school boards. The work of the teachers provided by the government is supplemented by the engineers connected with the mines. The value of the work done is appreciated by both the mine operators and the men.

There is an attendance of about 450 students at Alberta University from all sections of the province, rural and urban. There are also many young men taking courses at the agricultural schools and demonstration farms who intend to continue on the land and who wish to learn the latest scientific methods.

Mr. John Tanton, B.A., of London has been appointed principal of Mount Albert Continuation School.

Miss Annie L. Dunwoodie, of Marysville has been appointed principal of Bruce Mines Continuation School.



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Miss Irene N. O'Flaherty of Stratford is now kindergarten directress in Port Arthur Public School.

The principal of Fort Francis Continuation School is Mr. A. T. Batstone, formerly of Cookstown.

Mr. J. B. C. Runnings of the Faculty of Education Class of 1913 is at present principal of the Public School at Sioux Lookout, Ont., and also holds the position of Clerk of the Town.

From the report of a discussion of educational matters at St. John, N.B., we learn that the supply of teachers in that province is much more satisfactory than for the past few years. The number of male teachers in attendance at the Normal School is greater than it has been for several years.

Dr. Bethune, professor of entomology at the Ontario Agricultural College, has been awarded an honorary fellowship in the Entomological Society of America. Dr. Bethune is the first Canadian to be so recognised by the society.

Mr. W. H. Smith, principal of the Port Dover public school, has made a record for teaching, having spent fifty years in the service of Norfolk County.

Mr. R. W. Hicks, formerly principal of Queen Victoria School, South Parkdale, was the recipient recently of a purse of money from the teachers and pupils of that school. Mr. Hicks was superannuated after 26 years' service and his former associates and scholars took this way of expressing their esteem for him.

Mr. Peter McEachern, B.A., for fourteen years a resident of Kew Beach, and for 18 years a member of the staff at Jarvis Collegiate Institute, died recently at his home, 96 Waverley Road. He had been in poor health for two years, becoming seriously ill a month ago. The late Mr. McEachern was born in Eldon, Ont., and resided in Toronto forty years, receiving his degree at the University of Toronto.

Prof. Arthur P. Coleman of Toronto, was elected president of the Geological Society of America at the annual convention in Philadelphia. Professor Coleman is recognised as one of the world's foremost authorities on geological subjects.

The Senate of the University of Toronto has recommended Mr. A. K. Griffin for the Rhodes scholarship. Mr. Griffin is a son of the headmaster of St. Clement's College, Eglinton.

The Toronto Board of Education has decided to abolish school fees entirely during the war, this being the result of a request in a letter from the Trades and Labour Council. Only one trustee opposed the motion.

The Calgary Canadian Club has distributed to the Public School pupils a copy of the standard version of "O Canada", by R. Stanley

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In Minnesota the need for trained teachers of agriculture and domestic science is so great that the school of agricultural technology at the State university has taken for its main work the preparation of teachers for these subjects.

Hon. George Lawrence, Minister of Agriculture for Manitoba, made the announcement that his department would distribute in the various districts of the province a party of 15 field instructors. These men will work throughout the Summer, going directly to the homes of the farmers, showing them how to put in their seed, how to rotate crops, etc. The main idea of the scheme is to carry agricultural college ideas to the farmers.

The Hon. Dr. R. A. Pyne, Minister of Education, has appointed Dr. Helen MacMurchy to inspect the auxiliary classes which, by the act passed at the last session of Parliament, School Boards are authorised to institute. These classes are for the training of pupils who are, from physical or mental cause, unable to attend the ordinary Public School classes and receive lessons.

These classes form part of the school system of the province, and are distinct from the institutions for sub-normal children. Dr. MacMurchy will be under the Department of Education for this portion of her work, and she will consult with and advise School Boards respecting the establishment of auxiliary classes.

NOVA SCOTIA.

The Short Course at the Agricultural College, Truro, has a good attendance this year, in spite of the disturbed condition of the country. The regular course attendance has suffered slightly; but is good. The new Science Building in connection with the college is nearing completion.

Up-to-date school buildings were opened in January at Mahone Bay, Lunenburg County, and Pugwash, Cumberland Co.

Miss Augusta Daniel, B.A., has succeeded Miss Amy Bissett as teacher in Grade VIII, Public Schools, Truro. Miss Bissett is now Mrs. England, Montreal. Mr. England is Supervising Principal, Dufferin St. School, Montreal.

Prof. L. C. Harlow, late of the Normal College, Truro, is now Professor of Chemistry at the Agricultural College. His place on the Normal College Staff is occupied by Mr. J. M. Scott, M.Sc., formerly instructor in McDonald College, Que. Miss Marjorie Mills is the Instructor, in drawing, in place of Miss O. A. Smith.

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Inspector Robinson held a successful teachers' Institute at Kentville, December 17th and 18th. He purposes holding three small Institutes each year in different parts of his district, rather than one larger central Institute. The small Institute proves more efficient than the large one.

SASKATCHEWAN.

On January 4th, First and Second Class sessions of the Normal School opened at Regina and Saskatoon. Third Class sessions opened on the same date at the following points, viz., Regina, Saskatoon, Prince Albert, Yorkton, Swift Current, Estevan, Weyburn and Moosomin.

The following is a statement of the number of students admitted to each of the classes: *First Class*—Regina 46, Saskatoon 28. *Second Class*—Regina 102, Saskatoon 44. *Third Class*—Regina 93, Saskatoon 112, Estevan 51, Yorkton 63, Moosomin 44, Prince Albert 38, Weyburn 33, Swift Current 33.

The Third Class sessions will close on February 26th. The following is a list of the inspectors in charge of the various Third Class sessions: Estevan—J. A. McLeod and R. W. Asselstine; Weyburn—J. Duff and A. W. Keith; Yorkton—J. T. M. Anderson and W. S. Cram; Prince Albert—J. H. McKechnie and W. H. Magee; Moosomin—W. T. Hawkins and John Hewgill; Swift Current—G. D. Ralston and A. L. Merrill; Regina—J. O'Brien and J. G. McKechnie; Saskatoon—J. E. Coombes and J. S. Huff.

The First and Second Class sessions will close the last week in April.

The following circular letter has been issued to University students by the Department of Education for Saskatchewan and has been distributed to the various Eastern Universities:

Notice to University Students—Re Provisional Certificates.

University students are hereby informed that a large number of qualified teachers are now available for schools in the province of Saskatchewan and that upwards of 650 students are now in training at the various sessions of the Provincial Normal Schools who will be available not later than April 30th. It is therefore confidently expected that the supply of qualified teachers during the year 1915 will be amply sufficient for the demand and provisional certificates will not be issued by the Department of Education except in the most urgent cases.

Students are advised, therefore, not to come to the province of Saskatchewan during 1915 with a view to employment in the short term schools unless they hold or are entitled to receive valid First, Second or Third Class certificates, *i.e.*, licenses to teach based on professional training.

AUGUSTUS H. BALL,

Deputy Minister.

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The following students who attended the First Class session of the Normal School held at Regina last term have been appointed to good positions: Mr. A. J. Weir, B.A. and Miss Helen B. Marsters, M.A. to the staff of the Collegiate Institute, Regina; Chas. E. Cayley to the principalship of Rosetown public school; Mr. Don MacMurchy, son of Mr. Norman MacMurchy, principal of the Collegiate Institute, Regina, to the principalship of Gull Lake public school.

Mr. J. W. Smith, who has for some years been principal of the public school at Moosomin, resigned his position recently. His successor is Mr. Gordon Churchill, B.A.

NEW BRUNSWICK.

Miss Edna L. Golding recently resigned her position as primary teacher of the Model Department in the Provincial Normal School, Fredericton. Miss Elsie L. Mills of Moncton has been appointed to succeed Miss Golding.

The Fredericton School Board opened their new school building on Smythe Street at the beginning of the present term. Miss Emily J. Thompson, formerly on the staff of the Charlotte St. School, is the principal. The school building is a modern two-storey one, with six class rooms, an assembly hall, steam heating, and concrete basement for playrooms in stormy weather. Teachers' rooms are provided.

L. R. Hetherington, B.A., Principal of Harkins Academy, Newcastle, has been seriously ill for some weeks. Mr. J. H. Drummie of St. John is supplying for Mr. Hetherington during his enforced absence from the schoolroom.

Twenty-five students at the University of New Brunswick have enlisted in the second overseas expeditionary contingent, and are now in training with the 23rd Artillery Company at Fredericton. Ten of the students belonged to the senior, seven to the junior, six to the sophomore, and two to the freshman class.

The Senate of the University of New Brunswick has ordered that of the juniors enlisting, the balance of their junior year should count the same as if they were attending lectures, and that seniors should receive their degrees without further attendance at the University.

A more extensive programme of garden work, in connection with the public schools, is to be undertaken this year, under the direction of R. P. Steeves, M.A., Director of Elementary Agricultural Education. The following is the programme as outlined: (1) Continuing and enlarging scope of the Summer Rural Science School for teachers. (2) Extending regular and systematic instruction along objective lines of nature study and agriculture in the elementary schools. (3) Extension of the school

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John gazed at the sentence for a few seconds and then waved his hand wildly.

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"Entering the vestibule we saw a marble of Sir Walter Scott bust."—*American School Board Journal*.

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PUPIL—To make a barometer, close a glass tube at both ends, and pour mercury in. If you take it up the mountain it goes up. If you take it down the mountain it goes down.

"Now, John, I want you to apologize to William for calling him a liar."

"I-I apologize for callin' ye wh-what ye are."—*Life*.

PROFESSOR—"What are the constituents of quartz?"

STUDENT—"Pints."

A bland smile creeps over the class.—*American School Board Journal*.