

The School

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Vol. VI

Toronto, May, 1918

No. 9

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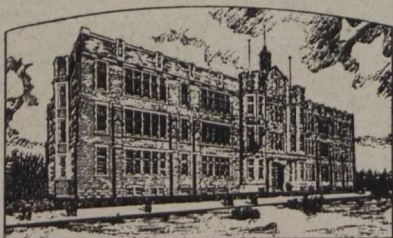
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TORONTO, April 1st, 1918.

Ontario Department of Education

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February.....	20	August.....	
March.....	20	Sept.....	19
April.....	17	October.....	23
May.....	22	November.....	22
June.....	19	December.....	15
	<hr/>		<hr/>
	119		79
		Total.....	198

DATES OF OPENING AND CLOSING

Open.....	3rd January	Close.....	28th March
Reopen.....	8th April	Close.....	28th June
Reopen.....	3rd September	Close.....	20th December

NOTE—Easter holidays (29th March to 7th April, inclusive), Midsummer holidays [from 29th June to 2nd September, inclusive], Christmas and New Year's holidays (21st December, 1918 to 2nd January, 1919, inclusive), all Saturdays and Local Municipal Holidays, Dominion or Provincial Public Fast or Thanksgiving Days, Victoria Day the anniversary of Queen Victoria's Birthday (Friday, 24th May), the King's Birthday (Monday, 3rd June), and Labour Day [1st Monday (2nd) of September], are holidays in the High, Continuation, Public, and Separate Schools, and no other days can be deducted from the proper divisor except the days on which the Teachers' Institute is held. The above-named holidays are taken into account in this statement, so far as they apply to 1918, except any Public Fast or Thanksgiving Day, or Local Municipal holiday. Neither Arbor Day nor Empire Day is a holiday.

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Editorial Notes

Education in War Time

Educational progress must not be retarded by war conditions. Not only so, but school activities must receive more attention now than ever before. Education is pre-eminently one of the "essential industries." In England, where the stress of war is more severely felt than elsewhere in the Empire, the present has been chosen as the fitting occasion for what amounts to a revolution in education. The government of every progressive nation, realizing the tremendous importance of education in the national life, is investigating and testing systems with a view to preparation for the reconstruction period.

The attitude of the Government of the United States is thus given in a letter sent out by the Bureau of Education:

"Don't close the schools; use them to maximum capacity. The entire spirit of the Administration in Washington is, and has been from the beginning, that the war should in no way be used as an excuse for giving the children of the country any less education, in quantity or quality, than they otherwise would have had. Both the present demands of the war emergency and the prospective demands of the necessary readjustments inevitably to follow emphasize the need of providing in full measure for the education of all the people. There appears to be nothing in the present or prospective war emergency to justify curtailment in any respect of the sessions of the elementary schools, or of the education of boys and girls under 14 years of age, and nothing which should serve as an excuse for interference with the progressive development of the school system. Opportunities should be found to introduce into the school activities having real educational value, which at the same time link up the Public Schools with the ideals of service and self-sacrifice actuating our people, and bring home to the consciousness of teachers, pupils, and parents the essential unity of the nation in this great crisis. The army and navy do not want, and can not use, boys under 18 years of age, nor boys nor men of any age who are not strong and well-developed physically. So far as the army and navy are concerned, there is nothing more important that the schools can do than to keep going at full capacity, and at the same time to emphasize in every possible way their work in physical education. High school boys will render the best service of which they are capable by remaining in school until completion of the High School course."

Educational Standards

The President of the English Board of Education some months ago appointed a committee to investigate and report on the various problems connected with teachers' salaries. Interesting recommendations and suggestions appear in the committee's report. Two important statements are: "Teaching is by common consent a profession. The English public have not realised its great importance to the national welfare, and have not accorded to its members the position to which their education and the importance of their work entitle them." "We may, however, look forward to a time when admission to the profession will be limited to persons who have reached accepted standards of education and training, a result which will be of great benefit to national education."

The committee has considered the question of equal pay for men and women teachers doing the same work and decides against equality, apparently because (in the opinion of its members) a salary which is attractive to women will not induce enough men to enter the profession! Accepting the principle that it is the duty of the State to secure an adequate staff of teachers, the committee has drawn up a national scale of salaries with regular increments. The wish is expressed that the salary of the country teacher might be made equal to that of his colleague in the town. To Canadians it is amusing to notice in this report the evident desire that English teachers would move more freely from school to school so as to obtain a varied experience. How the members of that committee would enjoy a sojourn in this Dominion, where they might occasionally see from two to seven teachers in charge of the same rural school in one year!

Not only in England is there manifest concern regarding the quantity and the quality of the supply of teachers. In the United States there is an alarming and an increasing shortage because of the openings for teachers in military and governmental service. And in parts of Canada the lack of qualified teachers is no less menacing. Of course, this may, and should, result in increased salaries; but the danger in the situation is that there will very probably be a demand from boards of education and from the public for a lower standard of qualification so that the schools may be manned without additional expense. Any yielding to such pressure will mean disaster. To the real friends of education, to those who know that a nation is what it is mainly because of the kind of teaching given in its schools, to those who realise that *what* is taught is not more important than *how* it is taught and by *whom* it is taught, comes the imperative necessity for safeguarding the results of years of uphill struggle. In the past two or three decades education has gradu-

ally reached a plane more in keeping with its relative importance; still greater achievement is necessary. Let there be no retrogression in the present crisis; let there be no lowering of standards!

Why Hurry?

At this time of year a panicky atmosphere pervades some schools. Examinations are so near; there is so much work to be done, and there remains so little time in which to do it! What is left of the course of study is covered in frantic haste; the teacher hurries to dictate copious notes; the students hurry to write them and then to "cram" them; the nervous tension gains momentum daily. But this is the time of year when there should be opportunity for quiet and careful reflection on what has been learned, for deliberate review of difficult topics, for the acquirement of confidence and power!

Why hurry? With each year's experience the successful teacher covers the required work more slowly and more thoroughly, and yet has, at the end of the year, more time for careful review. The tendency of the inexperienced teacher is to hurry at the beginning of the term, only to find as the months pass that the foundations of the year's work are insecure and must be rebuilt.

Why hurry? Energy, so necessary to good teaching, does not consist in "fussiness," in numerous unnecessary movements. Energy is a disposition—a correct attitude towards work. The yard engine makes more "fuss" than the mogul but it does less work. Methodical, punctual placidity is not laziness; it is the result of the right kind of enthusiasm and energy, and it accomplishes work that endures.

Teaching must be so carefully and so thoroughly done that neither time nor energy are wasted, that nothing needs to be undone, that everything is properly "nailed down" as the work proceeds. Done in this way, results are sure, "nerves" are unknown, regrets are few. Then, why hurry?

Two small boys were having an argument, and the subject of the discussion was ethics of truth-telling. Said the first: "A fib is the same as a story, and a story's the same as a lie, and——" "No, it's not," broke in the second boy, in quite as determined a manner. "Yes, it is," asserted the first. "An' I know it is, because my father's a professor at the university, and——" "I don't care if he is," was the other's cool reply. "My father's a newspaper reporter, and he knows more about lying than your father."

Teacher—"Who can tell me the meaning of a 'round robin'?"

Bright Boy—"Please, miss, it's what that burglar was doin' last night when they nabbed him.—Buffalo Courier.

The Development of the Imperial Conference

(Continued from the April issue)

G. M. JONES, B.A.

Faculty of Education, University of Toronto

London 1917. A few days after the 1911 conference the Laurier Government was defeated. The new Premier, Sir Robert Borden, not only halted the acquisition of a Canadian fleet, but visited London in 1912, and demanded a voice in foreign affairs. In 1913 the British Government answered the demand by announcing that, with regard to technical questions of defence, whenever matters affecting a Dominion were under consideration in the committee of Imperial Defence a representative of that Dominion would be summoned. As to foreign policy in general, any resident minister appointed by a Dominion Government would have at all times free and full access to the Prime Minister, the Foreign Secretary, and the Colonial Secretary.¹

The European political situation remained threatening. In 1911 Italy made war on Turkey, and before peace had again been made between these countries, the Balkan Wars had started. Finally, in 1914 the present great conflict began. It seemed to both British and Dominion statesmen, except those of Australia, that it was unwise and inconvenient to hold an Imperial Conference while Great Britain was struggling for her life, and so the 1915 meeting was postponed. But on December 20th, 1916, the Prime Minister of the United Kingdom summoned the Dominion prime ministers to meet with the members of the British Cabinet in an Imperial War Conference to take counsel concerning the prosecution of the war, the terms of peace, and problems after the war.²

It had probably been intended that only one Imperial body should meet,³ but ultimately it was arranged that there should be (1) an Imperial War Cabinet composed of the British War Cabinet together with the Dominion premiers, (2) an Imperial War Conference composed of the Colonial Secretary, the Dominion premiers, and certain other Dominion ministers. The first body met three days in the week and the second body on the other three days. Concerning the work of the War Cabinet we have no information except the little given in speeches by the ministers who attended its meetings. Some of the discussions of the War

¹ Jebb, *The Britannic Question*, p. 53.

² Sir Robert Borden in House of Commons, *Canadian Hansard*, May 18, 1917, p. 1597.

³ *Hansard*, p. 1598.

Conference were confidential also, and of them we have as yet no record; but we have the full debates on a number of exceedingly important matters and the resolutions passed concerning still others.

The work of the Imperial War Conference was very varied and very important, but three subjects of discussion stand out with special prominence. For the first time in thirty years a Conference passed unanimously a resolution in favour of imperial preference. Under the stress of war, even Great Britain agreed that "each part of the Empire, having due regard to the interests of our Allies, shall give specially favourable treatment and facilities to the produce and manufactures of other parts of the Empire." At previous Conferences, with the exception of the first, India had no representation; but she was represented in this War Conference by four men, and the other statesmen present were so highly pleased with the change that a resolution was passed in favour of "India being fully represented at all future Imperial Conferences."¹ Furthermore, they recommended the removal of one great cause of India's discontent. "The Imperial War Conference, having examined the memorandum on the position of Indians in the self-governing Dominions presented by the Indian representatives to the Conference, accepts the principle of reciprocity of treatment between India and the Dominions."²

The most important subject discussed was the constitution of the Empire. After private consultation with other members of the Conference, Sir Robert Borden moved a resolution which, with slight amendment, read as follows: "The Imperial War Conference are of opinion that the readjustment of the constitutional relations of the component parts of the Empire is too important and intricate a subject to be dealt with during the war, and that it should form the subject of a special Imperial Conference to be summoned as soon as possible after the cessation of hostilities. They deem it their duty, however, to place on record their view that any such readjustment, while thoroughly preserving all existing powers of self-government and complete control of domestic affairs, should be based upon a full recognition of the Dominions as autonomous nations of an Imperial Commonwealth, and of India as an important portion of the same, should recognize the right of the Dominions and India to an adequate voice in foreign policy and in foreign relations, and should provide effective arrangements for continuous consultation in all important matters of common imperial concern, and for such necessary concerted action, founded on consultation, as the several Governments may determine."³

¹ Extracts from Minutes of Proceedings, Canadian Sessional Paper No. 42a, 1917, p. 28

² Do., pp. 126, 170.

³ Minutes, p. 46.

This resolution passed unanimously (according to Sir Robert Borden), but there was the same division of opinion with regard to the future government of the Empire as had been shown at the 1911 meeting. The representatives of New Zealand again favoured an Imperial Parliament, and Sir Joseph Ward repeated the arguments he had advanced in 1911; but the other speakers saw grave dangers in any proposal "for an Imperial Parliament which should have taxing powers for certain purposes over all Dominions as well as over the United Kingdom." Sir Robert Borden later expressed in the Canadian House of Commons his conviction that such a proposal was "neither feasible nor wise,"¹ but it fell to the lot of General Smuts of South Africa to express most clearly and forcibly in the Conference discussion the objections of those who opposed the creation of a new Federal Imperial Parliament.

"If this resolution is passed, then one possible solution is negatived, and that is the Federal solution. The idea of a future Imperial Parliament and a future Imperial Executive is negatived by implication by the terms of this resolution. The idea on which this resolution is based is rather that the Empire would develop on the lines upon which it has developed hitherto, that there would be more freedom and more equality in all its constituent parts; that they will continue to legislate for themselves and continue to govern themselves; that whatever executive action has to be taken, even in common concerns, would have to be determined, as the last paragraph says, by the several governments of the Empire, and the idea of a Federal solution is therefore negatived, and, I think, very wisely, because it seems to me that the circumstances of the Empire entirely preclude the Federal solution. Here we are, as I say, a group of nations spread over the whole world, speaking different languages, belonging to different races with entirely different economic circumstances, and to attempt to run even the common concerns of that group of nations by means of a central parliament and a central executive is, to my mind, absolutely to court disaster."²

Important as were the discussions and the decisions of the Imperial War Conference, the precedent set by the meeting of the Imperial War Cabinet is of far greater importance. For the first time in the history of the Empire, a small group of men representing the self-governing parts of the Empire and India met together week after week to decide what action should be taken with regard to the conduct of a war. It is true that this Imperial War Cabinet is unlike any other British Cabinet, since it is not responsible exclusively to any one parliament, but it is an effective instrument for co-ordinating the war efforts of the autonomous parts of the Empire, and is likely to become a "permanent con-

¹ Canadian Hansard, May 18, 1917, p. 1603.

² Minutes, p. 53.

vention of the constitution." Both Sir Robert Borden and Mr. Lloyd George look forward to such a development,¹ and other members of the Conference were deeply impressed with the importance of this new body. Mr. Massey, of New Zealand, expressed thus his conviction: "I think that when the Dominions were asked to send representatives from their Legislatures, from their Governments, to the Imperial War Cabinet, it was one of the most important events that had ever taken place in the history of the British Empire, and I am confident that posterity will look upon it from that point of view."²

Very great progress has been made since 1887. At first the colonial representatives came to the conferences as inferiors who were summoned occasionally by their superior, the Secretary of State for the Colonies. Now the Dominion representatives go to London at regular intervals to sit as equals in conference with the British representatives. The question of preferential trade was debated for thirty years, and at last in 1917 the representatives of Great Britain voted in favour of the principle of preferential trade within the Empire. Colonial help in defence was repeatedly sought, and sometimes given in small measure, but now the Dominions, the Crown Colonies, and India are giving generously of men and money for the present great struggle. India was long unrepresented in the councils of the Empire; but in the future she is to be represented, and her citizens are to be treated in some measure at least as the equals of other British citizens. It long seemed that no progress was being made in finding a better constitution for the Empire. At the first Conference the Marquis of Salisbury said the discussion of Imperial Federation was premature. In 1897 and 1902 Mr. Chamberlain urged the creation of an Imperial Council, but accomplished nothing. In 1911 Sir Joseph Ward laid before the Conference his scheme for an Imperial Parliament, but failed to win any support. And yet all this time the Conference itself was developing into a recognized and highly useful instrument of government, which with the Imperial Cabinet will perhaps give the British Commonwealth all the central machinery it will require for a long time to come. Thirty years ago the British Empire consisted of a parent state, a number of self-governing colonies, and a large number of crown colonies and dependencies, loosely bound together by ties of sentiment. To-day it consists of a group of self-governing nations with colonies and dependencies, still held together by the strongest ties of sentiment, and possessing in addition a highly efficient means of consultation and concerted action.

¹ Canadian Hansard, May 18, 1917, p. 1601.

² Minutes, p. 51.

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The First Duty of Teachers

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THE effectiveness of any system of education depends upon how regularly it is used by the pupils in the schools. The best system cannot educate a child who stays at home fifty per cent. of his time; in that we all agree. But where does a system begin to fail? The New York Commission discovered that a loss of ten days or less in a hundred-day term did not seriously lower the standing of pupils, but that over ten days' loss of time produced an effect proportionate to the time lost, or in the words of the editor of the report: "64.30 per cent. of all non-promotions among pupils absent eleven days and more may be attributed to the effect of absence." The effect of absence is, then, that tens of thousands of children are left back to go over the same work again, to congest the already overcrowded lower grades, to increase the amount and degree of retardation, and to add to the cost of the elementary school." The report concludes: "In view of the effect of absence on the child's progress through the school, *the first duty of teachers and principals should be to keep children regular in attendance.*" According to this report the standard of excellence for attendance would not be below 90 per cent. of the enrolment month by month.

In order to learn the real conditions of non-attendance and truancy in rural schools, the writer sent out six questions to twelve inspectors in all parts of the Province of Ontario. The questionnaire, with answers received, follows:

Question 1. What is the approximate average attendance, month by month, in rural schools in your inspectorate? Lowest? Highest?

<i>Answers.</i>	Approximate average	Lowest	Highest
No. 1	80	..	..
2	..	34	90
3	55	50	70
4	61	45	82
5	55 (for year)	67 (Jan. & Sept.)	86
6	77	62	90
7	78	45	97
8	81	68	90
9	80	65	83
10	..	35	90
11	75	60	90
12	not given		

These answers show that the average of 66.69 per cent. given in the 1917 annual report of the Department of Education is probably ten per cent. below the average attendance month by month, due, of course, to the fact that many pupils attend only part of the year. Entrance pupils attend only six months, and new pupils entering in September only four months, of the year covered in the report.

Question 2. Has the system of monthly reports of teachers to the Inspector improved the average attendance? How much?

Answers. All in the affirmative, ranging from "slightly" in nine answers to 3 per cent., 5 per cent., and 10 per cent. in three others.

Question 3. Do you think that children who pass the entrance examination before 14 years of age should be exempted from the provisions of the Truancy Act?

Answers. Eight say "No." Four say "Yes," but modify this by saying, "in time of planting and harvesting, not at other times"; "unless proper provision is made for teaching a fifth class"; "unless High School work can be taken up"; "under present system of education."

Question 4. Is there any persistent truancy in your inspectorate?

Answers. Six answer "No," while the other six say, "Some, not much, mostly in villages, or outskirts of the city"; "Yes, about one family for every two sections"; "Negligible, not over four or five cases, which should be handled by the Children's Aid Society"; "Yes, more than is reported, as teachers do not get the names of children between 8 and 14 years of age residing in the section"; "One case"; "Yes, not more than six or eight cases in the county."

Question 5 (a). Has anyone in rural districts been prosecuted for violating the Truancy Act?

Answers. Ten say "No"; two say "Yes".

Question 5 (b). Is it possible to enforce the Act?

Answers. One says "No"; another, "almost impossible". The remainder answer, in effect, "Yes, with a competent officer". Many suggest that the officer should be an outsider or a county officer free from local affiliations, *e.g.*, the Children's Aid superintendent.

(It is interesting to note that Saskatchewan has adopted the plan of enforcing attendance directly through the Department of Education and has raised the average from 68 to 76 per cent. in one year. Out of 14,043 cases dealt with, only 930 had to be proceeded against by the Provincial police. The average attendance given above would seem to be considerably higher than Ontario, but the year in Saskatchewan ends June 30th, which makes for a higher average in the annual report).

Question 6. Could rural children of 14 to 16 or 18 years of age profit by a special three or four months' winter course in the average rural school? Could they be induced to attend?

Answer. Two say "No"; ten say, in effect, "Yes, if given the education wanted". One inspector suggests that a fair-sized class should be formed of such pupils in one or more schools in the township, but this, of course, raises the question of transportation.

It is evident from these answers that what is known as "persistent truancy" is rare in rural sections, but that "irregular attendance", in some sections up to more than fifty per cent. of the school year, is not uncommon. Of course, the question arises, "Is not this really truancy, with the connivance of the parents?" And then it may be asked, "Should not parents guilty of such connivance be prosecuted?" At present, however, the appointment of a truant officer is optional in a township or in a county and the burden of securing an improved attendance falls back upon the teacher and the inspector, who should, therefore, put forth every effort to effect an improvement by ordinary means.

Primarily, regular attendance is a moral problem, in as much as regularity of response to the recognized school organization, day by day, during the formative period of child life, is the foundation of good character, which results from uniform correct response to one's environment especially in the line of one's primary duty. Now, usually, the child's first duty is to be at school punctually five days a week whenever the school is in session. If a child responds correctly on Monday, incorrectly on Tuesday, not at all on Wednesday and continues this, year after year during school age, there can only be one result; that is, an irresponsible character.

Moreover, in addition to such a result from this cause, there is added ineffective response to the school work due to missing part of the regular work. Any child who misses a third of the school lessons cannot possibly get much value out of the other two thirds; discouragement will follow and the evil effects of the primary responses are aggravated. It is, of

course, evident that at times a child's primary duty is at home and in such a case character is formed by staying home. The difficulties at school, consequent upon this enforced absence, must be met cheerfully.

The first step in securing a voluntary improvement in attendance is to place before the parents the value of education. Suppose a teacher got all her older pupils to write compositions on this subject and had the best of these read at public meetings. Last year I heard a fourteen-year old boy deliver a good speech at a township school fair and if his topic had been, "The Value of Education", he might have presented facts like these:—The rural populations of Ontario and Quebec are practically equal; yet the value of farm products produced in Ontario is approximately double that of Quebec. What is the explanation? Probably the fact that Ontario spends \$5.43 per capita annually in education, while Quebec spends only \$3.78 per capita. Wherever comparisons have been made, it has been found that educated people produce more than uneducated people, and it would appear that the producing power is in proportion to the expenditure on education.

What is the value of a day's education to a child? While its greatest value is in mental and moral development, it also shows itself in power to earn more, and has, therefore, a money value. A. Caswell Ellis of the University of Texas asserts that a single day's education is worth \$9.02. His method of arriving at this value is to compare the earning power of uneducated labourers with that of High School graduates. He says, "Uneducated labourers earn on the average \$500 per year for 40 years or \$20,000. High School graduates earn on the average \$1,000 per year for 40 years or \$40,000. This education required 12 years of school of 180 days each, a total of 2,160 days in school.

"If 2,160 days in school add \$20,000 to the income for life, then each day at school adds $\$20,000 \div 2,160 = \9.02 .

"Therefore *the child that stays out of school to earn less than \$9.00 a day is losing money.*"

If compositions and problems in arithmetic of this nature were sent home every week, the parents would begin to think before keeping the boy or girl out of school for a day.

The teacher can find some way of bringing the desired facts before the parents. She may find in some agricultural paper an account of the work of a school like the Porter School in Missouri where farm values rose 25 to 33 1-3 per cent. on account of a vitalized community school. But the women of the section say, "It foots up in happiness—not in mere dollars and cents. We work hard now, but we have something to feed our minds and we don't exhaust ourselves with worry and brooding. We have become citizens of our community and of our country".

A teacher knows the papers that go into the farm homes and can secure the insertion of short articles in them if she makes an effort. Farm magazines will publish children's compositions on farm topics. The average farm magazine to-day is a great educational paper with which the teacher should keep in close touch; in fact, a good farm paper should be part of the equipment of every rural school.

Other means of reaching parents are through their own organizations, the best of which for the teacher's purpose are farmer's clubs, literary societies and women's institutes, all of which should meet in the school house. If the members of these societies would prepare papers on educational topics or take part in debates on live questions, the teacher need do very little but supply information.

For example, two sections of a township are preparing to debate the question of consolidation of schools. The teacher of the section taking the affirmative has supplied her side with pamphlets on the question, issued by the United States Bureau of Education, and with reports of consolidated schools in Manitoba and other provinces. When this debate is concluded, the debaters will have a fairly complete grasp of the question and the ratepayers of two sections will have some interest in the movement and some knowledge of it.

With the women's institutes back of the work of medical inspection, there seems to be little left for teachers to do, except to encourage the proposal. If no branch of an institute exists in the section, the teacher could do no better service than to get one established there.

Once parents have been impressed with the value of a single day's education, it should be easy to secure more regular attendance and to secure adequate equipment for the work of the school. A farmer who employed help at even \$2.50 a day and failed to provide him with the necessary tools to do a day's work would be classed as a fool or as hopelessly ignorant or careless. Yet here are children trying to earn at least \$5.00 a day in education, working in unhygienic conditions without adequate equipment, and often without proper nourishment; the noon cold lunch is poor preparation for the afternoon's trying mental tasks. It would, indeed, be a queer sort of farmer who could not see the force of these arguments for better equipment and for hot noon lunches. Mind you, these are coming, and those sections that lag behind are handicapping their children. Inspector W. C. Hartley of Carmen, Manitoba, says in his 1917 report, "The hot lunch idea has been adopted in one third of the schools, and is gaining ground. . . . I am convinced of its value for the health and comfort of the children". If parents know that the conditions in school are more conducive to health than they now are, there will be an improved attendance.

(To be continued).

Elementary Science Lesson

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THERE are two arthropods on the Lower School curriculum about which it is rather difficult to obtain detailed information. They are *porcellio*, the wood louse, and *lithobius*, the centipede. Both have the common arthropod characters of a segmented body, jointed legs, and a more or less hard exoskeleton. But they differ in other ways; the wood louse is classed as a *crustacean* and the centipede as a *myriopod*. The most striking characteristic of the wood louse is that, though a land animal, it breathes by means of gills which compel it to live in damp situations. The centipede, on the other hand, is very much like the insects for it breathes by tracheæ terminating in oval spiracles. Another outstanding feature is the difference in the division of the body. The wood louse has the three definite body regions, head, thorax, and abdomen; the centipede has only two well-marked body parts, a head and a many-segmented trunk.

The wood louse is a small oval crustacean which lives on land in moist and usually dark situations. The wood lice are found in large numbers in damp cellars, in crevices between bricks and mortar, under crocks, bricks, baskets, boards, shelves, and steps in basements which are damp the whole year. Many specimens can usually be obtained by moving pickle bottles which are on brick or stone cellar floors. Another favourite resort is under the shelves and flower pots in damp, dark places in greenhouses. In the summer and in late spring and fall they are to be found under bricks, stones, wood, etc., on the north side of houses and fences, especially if the soil is clay. When disturbed, they sometimes remain motionless, but usually scurry away under the nearest object.

They vary considerably in size. The largest are about seven-eighths of an inch long and about three-eighths of an inch wide. But those most frequently seen are from half to three-quarters of an inch long and one-quarter of an inch wide. The body is a fairly broad oval, and quite convex above. The dorsal surface is rather purplish or grayish brown and very smooth. The ventral surface is flat and like the legs is greyish white in colour. Sometimes there is a darker oval pattern on the back which is about one-sixteenth of an inch from the margin of the body. On others there is a vague splotching or mottling in a darker tone than the general dorsal colouration. The body is flattened dorso-ventrally but still retains a considerable convexity.

There are three body divisions which are not evident at first. The head is both short and narrow, not being as long as a single thoracic segment. The thorax is by far the broadest and longest part of the body. It makes up about two-thirds of the length of the body. The abdomen is made up of short segments.

The head appears from above to be a single first segment but is really made up by the fusion of five cephalic segments and one thoracic segment. The thorax consists of seven long, broad segments. The thoracic segments move freely upon each other. Following the thorax is what appears to be a six-segmented abdomen but the last abdominal segment is made up of the nineteenth and twentieth segments fused. The whole body has twenty segments, and is covered with a fine but tough chitinous material. Often empty "skins" are found in the haunts of the wood louse. These are the skins cast in moulting. They are light grey, shiny, and transparent. The head and thorax are not covered with a carapace, as in most crustaceans.

The head has a pair of rudimentary antennae and then a second jointed pair. At the base of each of the functioning antennae there are aggregations of simple sessile eyes.

The mouth is small and so also are the mouth parts. The mouth appendages consist of one pair of black-tipped jaws or mandibles, two pairs of maxillae, and one pair of maxillipeds. The jaws, maxillae, and upper and lower lips come close together in a point. The maxillipeds are plate-like and cover the other mouth parts.

On the thorax there are seven pairs of jointed walking legs—one pair on each segment. There are no gills on the thoracic legs. At the base of the thoracic legs of the female there are thin scale-like membranes beneath which are eggs or partially developed young. They act as brood sacs.

On each of the segments of the abdomen except the last there is a pair of abdominal legs. The inner branch of the abdominal legs has been transformed into a gill which is covered by a large plate. As this gill membrane must be kept moist in order to perform its function, the wood louse always lives in damp habitats. There are five gill legs. The moist skin covering the whole body also serves in a lesser degree as a breathing organ. On the last abdominal segment the legs have been modified to form a pair of feelers.

The mouth parts of the wood louse are adapted for eating the decaying vegetable matter which forms its food. Often in the winter these creatures may be found in holes in decaying potatoes and turnips. They are night scavengers and do much good by eating vegetable waste.

The wood louse is difficult to destroy because it does not seem to eat poisoned cabbage, potato, etc. When crushed, the body gives forth a very disagreeable odour.

Soil Studies and Experiments

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WITH the coming of spring the teacher's thoughts turn again to the school garden—her agricultural laboratory. The wise teacher begins early. Before the ground is clear of snow, plans are drawn, catalogues ransacked, seeds ordered, tools polished up, and all is ready. But is all ready? Too often the most important factor is overlooked—the soil.

It is safe to say that the fertility of the soil is the greatest asset a country can have, but it is also true that no fertility is permanent. A few years of carelessness or neglect may exhaust the best of land. It is an astonishing fact that the average farmer shows an ignorance of the principles governing his work that would not be tolerated in any other line of business. To many farmers the soil is mere dirt or earth, placed where it is by some happy chance, and useful only for the reception of his seed. To the scientific farmer it is a complex, almost a living material, of delicate and capricious disposition, needing careful and intelligent handling to keep it in good humour.

The soil may be viewed from three aspects, the physical, chemical, and biological. Under the first head should be considered such matters as colour, weight, texture, *tilth* or mellowness, power to retain water, temperature, and capillary action; under the second, the acidity or alkalinity and the amount and condition of the plant food; and, under the third, the bacteria so essential to the proper organization of the plant foods.

The teacher should consult some good work such as *Soils* by Fletcher, *The Soil* by King or *Soil Fertility and Permanent Agriculture* by Hopkins, as well as the numerous pamphlets and bulletins issued from time to time by our agricultural colleges. The purpose of this paper is to suggest a few practical exercises and experiments that any rural teacher can have her older pupils perform with small expenditure of her time and a minimum of expense for apparatus. Samples of gravel, sand, clay, and humus should be secured from various places, dried, and stored in boxes or jars; also loams of various kinds from different farms and gardens of the neighbourhood.

Experiment 1. Into a jar of clear water throw in succession handfuls of gravel, sand, fine clay, and humus respectively. Compare the rates with which they sink. From this experiment show (a) the danger of losing the finest and most fertile soil by erosion; (b) the reason why

deltas and alluvial plains are fertile; (c) why the material in the bed of a stream differs with different speeds of the water. Investigate for a week and report on examples of erosion observed in the school section.

Experiment 2. Strongly heat small quantities of dry gravel, sand, clay, and humus respectively. Organic matter is destroyed by heat. Determine the loss through heating of numerous samples of loam taken from different fields and gardens by weighing them before and after heating. The loss is due partly to evaporation of water but chiefly to removal of humus. Enumerate the ways in which a farmer may add organic matter to his soil. How does nature do this?

Experiment 3. Take two lamp chimneys and tie muslin over the lower ends. Fill them two-thirds full, one with dry sand, the other with dry, fine clay. Add water to the top of each and compare the rates with which it runs through. What kind of soil will require the most careful drainage? Which is in danger of losing most fertility by leaching? Try this experiment with farm loams of different kinds.

Experiment 4. Use the same chimneys, but have dry sand in one and dry humus in the other, both well packed. Add equal quantities of water to the soils and collect what drains out at the bottom. Which lets more water run through? How can the water-holding properties of a field be improved? Try the experiment with a mixture of sand and humus and with a variety of loams. Note the value of a forest in preventing the rapid escape of water into the streams after a rain.

Experiment 5. Take two tin boxes (biscuit boxes will do). Fill one with moist sand and the other with moist humus. Weigh the boxes and allow them to stand in the school room or in the hot sun for several days. Again weigh. This shows another important service performed by humus. The experiment may be extended to other soil materials or mixtures.

Experiment 6. Fill lamp chimneys to the top with fine sand, coarse sand, clay, and humus respectively and set them in a shallow pan filled with water. Note the rise of water by capillarity. In which case does the water rise most rapidly? Highest? When the water reaches the top what will become of it? How may the evaporation be prevented? Emphasize the value of the dry mulch. (See Experiments 7 and 8).

Experiment 7. Hold a piece of loaf sugar with the lower surface touching some ink. Note the rapid rise of the ink. On the top of another piece place a small pile of fine icing sugar and again touch the lump to the ink. Does the ink rise through the fine loose layer as freely as through the solid lump?

Experiment 8. Take two tin boxes (coffee tins will do). Punch holes in the bottom of these. Fill both with dry garden soil and allow them to stand in water until the top of the soil is moist. Dry the outside

and make the two boxes of equal weight. Pack the surface of *A* firmly and leave both boxes in a warm room for a few days. As *B* dries, stir the soil frequently to the depth of an inch. At the end of a week, place them on the scales. Which is drying out the more quickly? Use a *hoe* for watering your garden. Tillage is a great conserver of moisture.

Experiment 9. In two saucers mix clay and water, and sand and water respectively and compare the stickiness of the mixtures. By adding more clay to the first make a plastic mass. Knead this for some time; then dry it in the sun or on the stove. Dry also some clay that has been wet but not kneaded. Knead clay and humus together, and dry the mixture. Compare the hardness of the three samples. Which will crumble most easily. Dip one of the hardest balls of clay in water and expose it to the frost for a day or two. Thaw it out and examine it. How may the tilth of clay land be improved? What is the value of fall ploughing? What evil results from working clay soil while it is wet?

Experiment 10. (a) Knead wet clay with some slaked lime. Dry and compare its hardness with that of pure clay. Lime is valuable for improving the tilth of clay soils.

(b) Into each of two tumblers of water put a spoonful of fine clay. Stir well, and to one tumbler add a spoonful of lime. Stir both tumblers for a moment and allow them to stand for a short time. Which clears the more rapidly? Which has now the larger grains?

Experiment 11. Get a book of blue litmus paper from the druggist and moisten bits of it with vinegar, lemon juice, or other fruit juice, sour milk, alum, blue stone or cream tartar. The change to red indicates that these substances are *acids*. Now moisten the reddened papers with lime water, washing soda, wet wood ashes, ammonia. These restore the blue colour. They are *alkaline*. If soil becomes "sour," poor crops result. To test a soil for acidity lay a strip of blue litmus paper on the bottom of a tumbler; add a sample of the soil, and enough water to make the whole very moist. Leave for a day. If the paper shows any trace of pink colour the soil is acid. Pupils should test soils from a great variety of sources, especially the black soils from swamps, peat bogs, and woods.

Experiment 13. Arrange several boxes filled with sand, clay, humus, and loam respectively. Water well and place in the hot sun. From time to time test the temperature of each with a dairy or soil thermometer.

Experiment 14 (a). Get two tin cans. Punch holes in the bottom of *A*. Fill both with garden or field soil to within an inch of the top. Add water quickly to *B*. Note the appearance of bubbles. Where do they come from? Set *A* in a plate containing a little water and add water quickly as in the case of *B*. The bubbles now appear at the bottom. In undrained soil the water fills the spaces to the exclusion

of the air and poor growth results. When there is an underdrain, not only are spaces left for the air, but at each rain the descending water pushes out the old air into the drain and the "suction" from below causes fresh air to enter.

(b) Plant corn, beans, oats, and barley in drained and also in undrained boxes. Water freely and note the difference in the rate of growth colour of leaves, general vigour, and root development of the plants. Test the temperature of each.

The advantages of the experimental treatment of such a topic as this are:

(1) The pupils are taught the principles that underlie farm work. Farming is not mere drudgery that any dunce may succeed in doing by some rule of thumb.

(2) They are taught to dig out knowledge for themselves by patient investigation and accurate observation.

(3) After the teacher has shown the method, a large amount of work can be carried on without her supervision. Thus the "problem of the unemployed" in the rural school is made less difficult.

A Larger Administrative Unit for Rural Schools

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THOUGHTFUL persons everywhere to-day are examining as never before the causes to which they disburse their incomes, and at the same time are scrutinizing carefully the returns accruing from these disbursements. Farmers and rural folk generally are no exception to the rule in this matter. One expenditure in Canada which is being closely scanned is that involved in the provision of rural education. The farmer finds the cost per pupil per class hour in his district school always as high as, often double and sometimes treble, that of the neighbouring town. When he compares the two schools, however, in such matters as days of operation per annum, experience and qualification of the teachers, supervision of the work of both pupils and teachers, instruction in special subjects, character and equipment of school buildings, permanence of teaching staff, and opportunities for advanced work by the pupils, he is forced to the conclusion that he is not getting value for his money.

In his particular district there are but ten children to attend the school. The annual budget of the district is about \$1,200.00. This represents an investment of \$120.00 per year per pupil but the percentage

of attendance for the last year was but slightly over sixty. That is, for less than two-thirds of a year's school work he is compelled to pay over one hundred dollars per year per pupil. It is not surprising then that rural people are demanding such changes either in organization or administration as will insure a better return for the money expended.

In the Province of Alberta there are approximately 3,000 school districts. This represents an army of trustees, probably exceeding ten thousand men and women. Many of these are excellent people, wholeheartedly interested in education. Many more are quite ignorant of the duties and responsibilities pertaining to the office of school trustee, and others have sought and obtained the office of school trustee because they are known to be in favour of the minimum school term and a tax which does not exceed ten dollars on the quarter-section. One board in this year of grace proposes to re-open its school for the year on May first, continue until June thirtieth, re-open again September first and continue in operation *all the rest of the year*. The board gave this explanation of its curtailment of the children's rights; that the weather was too cold to operate the school during January and February, a teacher could not be secured during March and April, and school must be closed during July and August because the children are needed at home. When it was pointed out that at least fifteen of the children were in the junior grades and so quite useless at home, the reply was that the district could not afford to keep the school in operation for just these youngsters. During the past ten years not one pupil has tried the High School Entrance examination from this district, and a survey of the young people of the neighbourhood reveals an average school attainment of Grade V. Fortunately, there is machinery to prevent this board from robbing these children to quite the extent proposed.

In addition to being expensive and frequently inefficient, the district system is inconsistent, short-sighted, unprogressive, and penurious. It leads to the multiplication of small and frequently inefficient schools. It leads to great irregularities in educational advantages and is to-day the most serious obstacle to consolidation. To have a fully organized board of trustees for every district school—that is a corporate body with important financial and educational powers—seems in the light of experience in municipal government entirely unnecessary. The great need of the country to-day is such a reorganization of rural social institutions as will make life on the farm permanent and satisfying. The business of reorganization should begin with the rural school and the rural church.

In looking about for a better scheme of organization from an administrative standpoint, we are not without experience. In our towns and cities the school districts are usually co-terminous with the municipalities,

trustees are elected at large and the schools are for the most part efficient. It is frequently maintained that in these towns and cities a brighter type of citizen is secured for service on the school board than on the council. However that may be, the boards of the towns and cities appear to be, on the whole, intelligent, far-sighted men, with some vision of the importance of the work entrusted to their hands.

In Alberta and Saskatchewan the unit of administration of public affairs is the municipality. There are no counties, as in the Eastern Provinces. This municipality is an area consisting of nine townships—eighteen by eighteen miles. Municipalities are uniform in size and shape, and are quite accustomed to choosing a council from the municipal area at large. What more natural than that all the business of education in this municipality be the care of one municipal school board chosen at the same time and in the same way as the members of the municipal council? The average municipality contains from sixteen to twenty schools. This would mean the substitution of a board of, say, five members for a group of from fifty to sixty people. Judging from the experience of the towns and cities, this would result in the practical elimination of the unfit, the indifferent, and the self-seeker, at the hands of whom we have all suffered too long.

The care and management of such a system of schools would appeal to the better business men of the community as a man-sized job. Those really interested in education and willing to study the problem would be elected as trustees. The element of emulation between municipalities would be a factor and a much greater interest in education would be taken by everybody. The first improvement in administration would be the establishment of a municipal school board office with a trained man in charge of it. There would be regular meetings of the board and a business-like administration. Instead of teachers being dependent on the government grant for the balance of salary due them, and being compelled to wait from four to six months, the salary cheque would be in the mail regularly on the last day of the month.

The second advantage of such an organization would be the saving effected in operation, cost of supplies, and provision for adequate buildings. At present there are being operated in the country many schools with an enrolment of ten pupils or fewer. With a large administrative unit such schools might be closed and waste eliminated. The pupils in these schools could be cared for in some other way, such as the consolidation of two or more of these districts. In addition to being more sanely economical, the proposed plan would provide a better type of education for the child.

The larger unit would also have a tendency to equalize the burden of support and so the length of school terms and, lastly, the quality

of instruction. In this way the stronger parts of the municipality would help (as they should do) those not so favourably situated and through this community co-operation all would have the advantage of greater school facilities.

There is no doubt that the district system hinders the progress of the movement for consolidation. When one considers that from nine to eighteen school officials have to agree on a policy for the larger unit it is quite remarkable that any progress at all has been made. Any board having in charge all the schools in the municipality would be in a position to unite such as could be served in other ways more readily and to provide for transportation. In the matter of supervision, too, the larger unit as illustrated in the town and city greatly excels. In fact one of the great reasons why the rural schools are so far behind and the teachers so anxious to escape from the country is the inadequacy of the supervision. With the municipal unit it would be possible for the board to use a supervising principal who would spend half his time in the other schools, or for two or three municipalities to join in securing a superintendent whose powers and duties would be similar to those of a well-organized town or city system.

In the last place, if municipal or rural High Schools are ever to be organized so that the rural pupils may have something like the opportunity enjoyed by those in the towns, there must be a larger unit. The organizations of such schools under the district system would be an impossibility. Summing up, then, it would seem that the larger unit of administration would make possible a more business-like administration of the school affairs of the community, including a considerable saving in costs of supplies, operation, etc., an equalization of the burden of the support of education, with a consequent approach towards equalization of educational opportunity, would facilitate consolidation and bring about a more effective type of supervision.

H. W. Foght, specialist in rural school practice of the United States Bureau of Education has recently completed a survey of the rural schools of Saskatchewan. He recommends the disestablishment of all school districts as now organized (other than organized village and town districts— and the re-establishment of all schools lying wholly or in part within each rural municipality as one single municipal school district. An organization of one municipal board of education together with custodians for each school in the municipality is advocated instead of the present system of trustees.

Commissioner Claxton of the United States Bureau of Education says: "My own observations and careful studies by the Bureau show conclusively that the larger unit of organization is more effective than

the smaller unit and that the passing from the smaller to the larger unit always results in an increase of efficiency in the school system".

The President of the N.E.A. says: "The forward-looking States are rapidly discarding the district system. It is outworn in practice and valueless in principle, and the larger unit of administration and taxation has already won the universal commendation of thinking people".

One other quotation—this from Superintendent Schaeffer of Pennsylvania—will show the general feeling with reference to the larger unit. "The school districts into which a township is divided cannot be changed as the population in rural districts changes. Under the township system schools which are no longer needed can be closed and the pupils transported to a central or consolidated school where better grading and better teaching become possible. The States which have had a larger unit of administration say that the township or county would be longer go back to the old district system."

It is getting to be a common thing in some parts of this country to have delegations waiting on the government to press their claims for increased State aid for schools. Every year finds increasing administrative needs, an increased number of schools in operation, and larger schedules of grants for those now organized because of longer school terms. All these mean increased demands on the Provincial revenues, which are not expanding very rapidly in these times. Some day perhaps we shall use the Province as a unit of taxation for the raising of our school funds. When that day comes we shall be in a position to expend in grants just as much as we are willing to raise by our educational tax. In Alberta this year we are raising our contribution to the Patriotic Fund of approximately one million dollars in this manner and scarcely knowing that we are doing it. If all the money being raised for education in this Province this year were in a common fund and expended where it would do the most good, the results would probably be double those which will actually be realized. When this time comes, poor outlying districts will be able to secure a teacher and maintain a school in some sense comparable to that of their more fortunately located fellow-citizens. Then our apportionment of State aid will be strictly on the basis of need and we shall have something of that much-talked-of but never-realized equality of opportunity.

Tommy (to Jock, on leave)—"What about the lingo? Suppose you want to say 'egg' over there, what do you say?"

Jock—"Ye juist say 'Oof.'"

Tommy—"But suppose you want two?"

Jock—"Ye say 'Twa oofs,' and the silly auld fule gies ye three, and ye juist gie her back one. Man, it's an awfu' easy language.—*Glasgow Herald.*

Grammar Study in Public Schools

WM. E. HAY, B.A.,
Superintendent of Schools, Medicine Hat

VERY few pupils in the intermediate or senior grades in the elementary school like the study of grammar; very few teachers find grammar as prescribed in the Course of Study a subject easy to teach. There are some inspectors of classroom work who believe that, as a rule, pupils dislike this subject because it is poorly taught. Teachers claim they fail to teach the subject well because they cannot awaken the pupil's interest in it. So it is and so it has been for many years; something is wrong somewhere.

It is undoubtedly true that, in the cases of many teachers, failure to teach well may be accounted for by the superficiality of their thought and investigation respecting the *what*, the *how* and the *why* of the work in hand; and that, in the cases of others, it may be due to the lack of careful and sufficient preparation of each day's lesson. Still it must be admitted that there are a great many conscientious, studious, thoughtful, painstaking teachers who cannot fairly be charged with these or any other shortcomings but who, nevertheless, have to confess that they have little or no success in teaching grammar. Nor does the confession on the part of these, that they fail to awaken the pupils' interest in grammar, suggest that the solution of our problem exists in a natural apathy on the part of the pupils. Children enrolled as pupils of classes in our schools are sane and, therefore, teachable. Involved in the teachableness of pupils to be taught is, however, an essential to all successful teaching, viz., an agreement between subject-matter chosen as a means of education and the stage of mental development of the learner. In the existence of this agreement lies the secret of successful teaching. If this secret is known, appreciated, and taken advantage of, satisfactory results may be obtained even in the case of the teacher of average ability working with a class of backward pupils. The nature of the subject-matter chosen must be suitable. That grammar, more than any other subject on the course, is supposed to have inherent difficulties that make it distinctively unpopular in the classroom is due largely, if not altogether to the fact that, while the aim of grammar teaching in the elementary schools is psychologically suitable and interestingly practical, the subject-matter of the prescribed course in grammar is not at all in agreement with this aim.

The subject-matter chosen for the introduction of grammar study in the grades should be of such a nature that it will serve as the best

material wherewith to exercise the child's language power, it being understood that the exercise given must be in accordance with the opportunity which the earlier stages of development of such power offer the educator and with an aim sufficiently practical for the child.

It is not difficult for the teacher in conducting the oral or written language lessons to make such references to the children's expression of thought as will awaken a conscious realization of possession of language power. A definite step towards teaching grammar is taken when the children are brought to reflect, as best they can, upon the fact that, in expressing themselves, they not only choose certain suitable words from their vocabulary but also prefer the certain order in which they have the words grouped or arranged. The intelligence of pupils of the age of nine or ten years is sufficient to enable them to see at once that words and word-groups have certain works to do, and further, that arrangement has an important part to play in getting satisfactory service from the words chosen.

For the child who has been reading written compositions for two or three years the word-group most easily recognizable as a unit of expression is the simple sentence. This unit stands out upon the printed page, definitely set off with characteristic markings. Then, too from the very beginning of the child's school career the development of "the sentence sense" has been the chief aim of the teacher in all the oral and written composition work through the primary grades. The keen perception natural to children of nine or ten years, if called into play, will be found sufficient for their discovery of the value of the change in order of words as such occurs in the different kinds of simple sentences. The characteristics of each of the three forms of expression as in:

"The songs of the birds are sweet.

Are the songs of the birds sweet?

How sweet the songs of the birds are!

are readily observed and noted. It is not important that the teacher label with names these three different forms. The teacher's aim in referring to these forms should not be to have them distinguished as different kinds of sentences but rather to reveal the fact that adequate expression of thought and feeling is partially made possible in the arrangement given the words in the sentence word-group. It is important, though, that proper conditions for conscious exercise of language power be supplied in requiring the children purposely to use the sentence word-group in each of these forms, to change one form to another, reflecting upon the nature of alteration made and the effect produced.

After some time has been spent with the very simple sentence as the elementary unit of expression, exercises in the combination of simple sentences may be given to reveal the use of this unit word-group as a part

of a larger word-group. Used thus as a part, the unit loses its sentence-markings, while the whole, which is a combination of like parts, is given sentence-markings. The larger sentence is introduced, not to teach the compound sentence in the belief that it is essential for the child to know the different kinds of sentences classified according to structure, but rather because it provides suitable material with which to exercise the child's faculties in the mental process of analysis.

The children should have much practice in analysis and synthesis of easy compound sentences, the three forms—assertive, interrogative and exclamatory—being used, also, perhaps, the imperative. The ability to analyze readily and intelligently is one thing needful if progress in elementary grammar study is to be satisfactory. Care should be taken to have associated with the exercise of the child's ability to analyze a practical aim for each exercise. He must realize a gain in expression of thought in having two or three successive small statements, questions or commands, as the case may be, instead of one excessively long statement or command; or, *vice versa*, a gain in having a combination instead of a series of similar short statements one following the other. If composition work is of the right kind and quality, the children's judgment respecting this grammatical point of compound sentence *versus* a series of simple sentences will be fairly reliable.

A greater satisfaction in the exercise of ability to analyze, to vary arrangement, and to make different syntheses comes to the child when, later, his efforts are directed upon the constituent part instead of the whole. So considered, our unit of expression is no longer termed 'sentence' but the constituent part of a sentence, or clause, and should be presented for analysis without sentence markings. Formal teaching of subject and predicate parts should not be uppermost in the teacher's mind in having the child proceed with the analysis of the clause. If exercises are well-graded and made suitable to development of the word-group sense, the children will easily discover the two constituent parts of the clause. If questioning on the teacher's part is at all carefully and skilfully used to guide the children's exercise of ability to analyze, they will readily distinguish enlargement part of subject from main part or enlargement from main part of predicate.

The scope for purposeful exercise of language power is, at this stage of progress, greatly increased. Children may become very much interested in the possibilities for enjoyment existing in transposing the enlargement portions (modifying words or word-groups) occurring in subject part or predicate part. Here again the correlation that may, and should, exist between grammar and composition is very evident. In the grades of the elementary school up to Grade VIII, grammar study should always have definite reference to language or composition work.

The treatment of enlargements in these re-arrangements prepares the way for some dealing with the functions of words occurring singly or in groups in expression of thought. A few good questions will generally bring the characteristic function easily within the mental grasp of the children. Interesting exercises, valuable alike for composition work and grammar study, may be given involving changes in expression of thought by addition, removal, or transposition of enlargement portions of subject, or predicate, or both. It would, of course, be all the better if the teacher is thoughtful and energetic enough to select all the material for such exercises *from the children's own compositions in oral or written language work*. If such is the case, children realize that grammar has some definite relation to their own talking and writing, that grammar study has a real, practical, every-day, present value. And this is the present-day aim in teaching grammar in our public or elementary schools.

The analysis of predicate will give rise to the necessity of making a distinction between what is to be found therein as the essential portion and what is simply accessory—in other words, between what is included as 'complement' portion and what is included as 'modifier' portion. Involved in the distinguishing of the functions of these predicate parts is a fairly close study of word and word-group relationships.

It is an open question whether there might not be quite enough included, supposing we make this a limit for grammar study in elementary schools up to and including Grade VII. This would mean a postponement of pupils' study of inflection of parts of speech until they entered Grade VIII. The useless, aggravating drill on classification and sub-classification of parts of speech could also be omitted without any very harmful results.

The normal child finds delight in the exercise of developing powers; the successful educator is careful, however, in choosing subject-matter with which to put these powers to the test not to subject them to too great exertion. Teachers do well to proceed slowly in using grammar study as a means of education, to wait for development of powers. A much more developed power is required to comprehend varieties of the one kind of grammatical function than to distinguish one function from another. There is danger of failing to accomplish the better aim in teaching of grammar by requiring attention to fine points of distinction, as is often necessary in sub-classification of the grammatical functions of words. The more important grammatical relationship of words or word-groups one to the other are suggested in discussions relative to the more important grammatical functions. Anything more than just a general dealing with this phase of grammar study should be avoided until the mental powers of the child are strong enough to work upon that which is abstract. Grammatical function and relationship of words or

word-groups, if dealt with generally, affords ample scope for giving the children of the elementary school a valuable and enjoyable training in the grammar study that counts,—in grammar study that is in harmony with the present-day aim, viz., to quicken the children's desire for a profitable exercise of their language power that it may function as it should in every-day speaking and writing. The greater part of the confusion that is so commonly experienced by pupils in grammar classes of the elementary school grades is due to the teacher's untimely introduction of an exhaustive study of grammatical relationships of words and of their corresponding inflections. There is much that is at present included in the course of grammar study prescribed for Grades VI and VII that could profitably be omitted until some definite demand for it may arise later, when a close study of syntax and inflection is necessary as a preparation for successful foreign-language study. It could nearly all be taken out of the course for Grade VI and Grade VII and distributed through the courses for Grades VIII and IX, where it properly belongs.

Uses of a Projection Lantern

W. C. RICHARDS,

Principal, Normal Practice School, Calgary

OUR school lantern is one of the kind that may be used to project pictures from books, or to show slides.

It has two main uses: (1) as a help in preparing work, and (2) as a help in the presentation of material.

I. As a help in Preparing Work.

(a) In history and geography it may be used to throw on the blackboard maps of countries; then the outline and the detail of the maps are easily traced with chalk. The results are immediate and very satisfactory.

(b) In art, when a complicated design is to be illustrated hurriedly and is also to be accurately drawn, the design in question is placed on the projection plate of the lantern and in a very short time it can be traced on the blackboard or on a large sheet of drawing paper. Such things as Egyptian, Greek and Roman decorations can be quickly and accurately illustrated in this way.

II. As a help in the presentation of material.

(a) In arithmetic the pupils' solutions of problems may be compared and quickly and conveniently criticized. Pictures of notes, drafts, etc., may be shown.

(b) In both literature and history many pictures may be shown that bear on the topic in hand. If one wishes to look around for these pictures many can be found that are of very great interest and assistance to the pupils.

(c) In civics, pictures of public buildings and public works may be shown to great advantage. When teaching the Dominion Government a few pictures of the Parliament Buildings and of the House of Commons in session may be shown. The speaker, the clerk, and other officers of the House may be pointed out. Pictures of prominent men connected with the Government form part of the lesson.

(d) The lantern may be used to show many pictures bearing on the subject of nature study. During class tours pictures may be taken of the objects studied and these later thrown on the screen in the classroom.

(e) Even in the teaching of agriculture the lantern has its uses as an aid in illustrating such things as farm implements and farm operations, grains, grasses, and breeds of stock.

(f) In geography the lantern is of great use in giving the pupils concrete and definite impressions of the subject. Foreign countries and peoples—their homes and their industries and products—the vegetation and animals of the world, are all made real to the pupils.

(g) In hygiene, pictures may be obtained to cover almost every phase of the subject. Given a camera and a lantern, one can teach pictorially the civic hygiene of any city, town, or village.

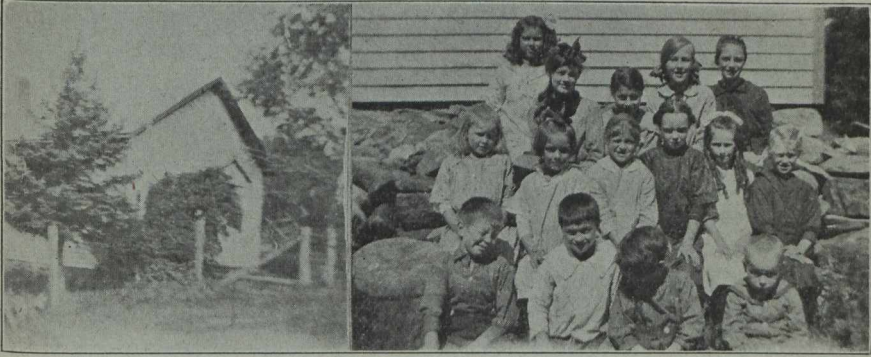
(h) Slides may be obtained from the Extension Department, University of Alberta, on such topics as "A Thousand Miles up the Congo," as well as on different phases of the war, and these are interesting and helpful to any class.

In fact, the teacher finds new uses for the lantern all the time. The cost of ours was about \$50.00. Teachers interested in securing a lantern should write to the Extension Department of the University for full particulars as to its cost and operation.

A teacher had been holding forth on the three great divisions of nature—the animal: the vegetable and the mineral. When she had finished she put this question: "Who can tell me what is the highest form of animal life?"

A little girl bounced from her seat and with the certainty of being right, exclaimed, "The giraffe, mum."

Primary Department



GREENBUSH SCHOOL, S.S. NO. 1, LIMERICK, STEENBURG, ONTARIO.
Teacher—Miss Johnina Ulman.

Send in a "snapshot" of your school for reproduction on this page.

[THE SCHOOL undertakes to answer promptly, by letter, all reasonable questions, if correspondents enclose stamped, addressed envelope. When this condition is not met, answers are given on this page as soon as space permits.]

Correspondence

Miss E. I. Bennett of Lathom, Alberta, writes as follows: "Some readers of the Primary Department of THE SCHOOL may be interested to know that sticks for the use of primary pupils in their stick-laying may be made by cutting off the heads of a box or two of matches. These sticks are then coloured. I did this and found that the little ones were delighted to make use of them when writing or laying the various combinations".

Primary Number Work

(Continued from the April number.)

FLORENCE M. CHRISTIANSON,
Niagara Falls South

ABOUT the middle of November the class that entered school in September showed such proficiency in their number-work that it seemed time to introduce addition with "carrying". Before Christmas they were doing problems like these:

431	234	243	343
325	434	434	233
244	523	523	432
—	—	—	—

Pointing to the digits in right-hand row the child says "9, 10". This 10 is set down somewhere near the lower edge of the blackboard. Then say, "We take the 0 and place it below the line, being careful to have it just under the 4; and, before we transfer it up to its place, we erase it from its original position, and that leaves the "one" or tens figure. Then it will not do to throw the "one" away and so we just add it on the next row of figures or, as we say, "we carry it". Do not permit the child to stick a little figure "one" above the line in the tens column. He learns just as easily to add it in and it is a bit of mental exercise to see it in his mind rather than on the blackboard; also, it makes a neater sum.

Then, as we run up the addends and get each result, this result is written as before and the children are asked, "What figure do we write down?" "The right-hand one". "Show me your right hand? Point to the figure I should write? Who will move it up to its place?" A child comes forward, erases the unit figure, and replaces it in its proper place in the problem. "What is left?" "One." "What shall we do with that?"

We work at these problems from time to time and when they seem able to do this work alone, the answers are erased from the problems we have just completed and the children do them again for seat-work. We get fair results from the beginning. A teacher need not write new problems every time. Problems made by changing a figure here and there become new and serve every purpose.

When accuracy and speed have been attained, introduce 6 and, later, the other digits. By the end of May last year my pupils were able to work problems of which the following are types:

$$\begin{array}{r} 24701402 \\ \quad \quad \quad 2 \\ \hline \end{array} \quad \begin{array}{r} 1234567 \\ \quad \quad \quad 2 \\ \hline \end{array} \quad \begin{array}{r} 64500410 \\ \quad \quad \quad \quad \quad \quad 2 \\ \hline \end{array}$$

To these the answers were put down as fast as they could write.

In from ten to twelve weeks subtraction is introduced.

First Step. Spread out neatly near the edge of the top of the desk (so that each child can see when standing in class) 6 splints (because so easy to handle) and ask how many there are. 6.

Then remove 2 splints. "How many were taken away?" 2. "And how many were there at first?" 6. "Then, how many are left?" 4.

The 6 splints are replaced. Remove one and ask the questions again. Repeat many times, each time removing a different number of splints, and getting answer to the questions each time. If a child hesitates, go through the operation again and let him actually count the splints.

Then state the operation, "6 minus 2 leaves 4". Repeat operations, getting the statement each time it is performed. When we have learned 6, we take 5, then 4, etc., until we deal with each digit. Then some day, after considerable skill is developed, the suggestion is made, "Let us see how these would look on the blackboard." The small lines are placed in a row on the blackboard, using 6 as the subtrahend.

$$\begin{array}{cccccccc} & 6 & 6 & 6 & 6 & 6 & 6 & 6 \\ (F) & -4 & -2 & -0 & -1 & -5 & -3 & -6 \\ & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} & \text{---} \end{array}$$

Then ask, "Four from six leaves how many?" 2. Then show how to write it. How important it is to have the little line (minus sign) exactly in front of the number we wish to take away. "Who would like to write -2 under the next 6?" Children volunteer. -0? and so with the rest, always calling upon the child who is not so ready and getting him to try. Soon all see how to do it, and so we get the table at (F). "Let us read them." Point to each combination and have pupils read 6 minus 4 leaves 2, etc. Drill singly and in concert. Another time make the table on the board, supplying answers, and point and read again. In due course erase answers and have the pupils reproduce the table for seat work, finding answers.

NOTES.

The symbol cards are 4 x 6 inches and are made from fairly heavy card-board. The symbol or figure is written on one side with India ink or crayola. The outline of the symbol is large and distinct and we have several cards for the same symbol.

The best "counters" seem to be horse-chestnuts. Rows of noble old trees line our street and the children gather our supplies during September while they can take the nuts out of their novel, prickly burrs. These nuts at this time are a beautiful brown colour and, since they are not mature, their interiors shrink up greatly and that produces a delightful corrugation on their exteriors. This insures their remaining in any position and enhances their value for our purpose.

We like them because they are large, new, clean and pleasant to handle. Each child has a paper match-box full of them for use at his desk or blackboard. And near the teacher's desk is a large box from which all pupils get supplies during the class recitation.

We use slates, too. A slate has its place in the schoolroom. Ours are red-bordered ones, about 12 x 18 inches in size. A slate is useful because it presents a rigid writing surface. After a child has been sitting in his seat, he can come up to the teacher's desk for a change, and stand and hold his slate while performing various operations in class. Each child provides himself with an empty ink-bottle with a secure cork. In the

bottle we keep 2% carbolic solution for cleaning the slate; this is effected with a clean cloth.

Another good point in favour of the slate is the ease with which we can get rid of bad work. It is not good to look at badly-done work. In a scribbler it is preserved and always has its effect on the eye even though the child is unconscious of this. On the slate it can be obliterated instantly and copies may be multiplied indefinitely.

Each pupil has a ruler from the beginning. He learns to make straight lines. All the rulers should be similarly divided. A little talk about its use, the kind of wood used in its construction, checking off its divisions, etc., gets the children interested and simple practice in measuring various articles in the room leads to a further acquaintance with it.

On a side wall near the rear of our room we have ten feet of black-board; this the children are at liberty to use at any time during intermission. Here some of the more clever ones teach their school-mates. It is generally individual teaching and is a boon to those that are a little backward. These "pupil-teachers" do yeoman service in drilling their fellows and they benefit themselves as well. Reading, spelling, number-work, and writing receive about equal attention. It is interesting to sit down sometimes at a little distance with a book, not to read, but to hear the youngsters. Then I see myself as a teacher! There will be no dearth of teachers for many years to come, for I have a whole army of little folk who are going to be teachers when grown up. One little girl in a moment of confidence told me, "I wish I were a teacher just like you. I would like nothing better."

Industrial Arts in the Kindergarten and Primary

ETHEL M. HALL,

Kindergarten-Primary Form, Ryerson Public School, Toronto

"If thou would'st view Melrose aright,
Go visit it by pale moon light,"

sang Scott in his *Lay of the Last Minstrel*.

The witchery of the moon beams falling upon the ancient arches with their lace-like carvings is beyond description.

Who wrought this lace work in stone? "Architects of a day when even the meanest articles of domestic utility—cups and platters, door panels and chimney pieces, coverlets for beds and lids for linen chests, had a wealth of artistic invention lavished upon them by innumerable craftsmen, no less skilled in technical details than distinguished by real

taste. At a period between the thirteenth and seventeenth centuries whole nations seemed to have been endowed with an instinct for the beautiful, and with a capacity for producing it in every conceivable form."

What caused the reaction? Look at the inartistic architecture of to-day! View our cities, towns, and villages with their crude buildings, their streets lined with telephone poles and strung with wires and ugly signs! What has become of the art and architecture of the past?

The great industrial institutions, with their throbbing machinery, have made individual handwork unnecessary. In the centuries which followed the industrial revolution, men forgot how to carve delicate patterns in stone and wood; they forgot how to weave exquisite fabrics and colour them harmoniously.

In the nineteenth century Ruskin raised a cry of alarm. In his lectures and writings he endeavoured to bring back a love for the beautiful. Years have passed since Ruskin raised his protest against the ugly and preached his "Religion of Beauty", yet we have not advanced very far. Where must we begin to instil a love of beauty and artistic taste in the nation? As soon as the child enters school.

The traditions of ancient art were handed down from father to son and from master-workman to apprentice. The beautiful fresco was that piece of work which raised the apprentice to master-workman and caused him to be recognized as such. Dr. Sykes says: "That was his examination and his thesis for his degree as master of his art."

But work upon which many years were spent can now be done by machinery in as many days. Haste, poor material, inartistic pattern, and colouring have developed ugliness in place of beauty. The hand of the individual workman has lost its cunning. During recent years, industrial art schools have been instituted throughout Europe for specialization in this work. Work in wood and brass, in textiles and clay, in bronze and silver, engraving, decorating, stucco and marble work, design in pottery and textiles, printing, photography, glass staining, bookbinding, decorative design for letters, illustrations for carpets and linoleum, etching, die-cutting, embossing, and every form of industrial and fine arts is carried on in these schools.

Through our schools we can get a measure of art interest and art faculty back. There seems to be a wide difference of opinion in regard to art. Art is beauty, order, form. Art is harmony and must affect the nerves as a strain of music would affect them. "In teaching any form of art we must have a standard worthy of a life-time of endeavour." "Art is not merely the expression of life; it is rhythm, order, quality and harmony." How shall we teach it so as to relate it to all life and the demands of industrial life? "Through design—because it is built upon

an inherent human desire for choosing the beautiful—the desire to make something look well whether the work be a machine or a painting. This aim brings order out of anarchy; it gives a definite reason for drawing from nature, for studying arrangement, proportion, line, and colour! Express life, but do it through the terms of harmony of design.” Design furnishes rhythmic patterns not merely for decorative arrangement but for seeing and interpreting and expressing new ideas.

The relation of art to life and the creating of desire for harmony in environment is the end of all artistic effort, whether in fine arts or industrial arts. The sooner we begin to create a love for beauty and harmony in the youngest children, the sooner will our nation rise to appreciation of the fine.

“Methods of instruction are valuable, but æsthetic appreciation is contagious. If we have a genuine love for that which is beautiful ourselves, it tends to awaken a similar emotion in the children with whom we come in contact.”

Hand work belongs to the realm of art. It is intimate and personal in character and is a question of individual adjustment. It demands a creative atmosphere and does not thrive under the strict silence of the ordinary school period. Joyous human relationships must surround the work done with the hands. The children should be allowed and encouraged to lend a hand. The child who can show his work to his neighbour and get his approval knows the joy of the true craftsman. “The concrete evidence of power will flow over into other lines of effort.”

Originality of expression is the aim of industrial art, but originality is not ready-made. It is the result of long experience and an accompanying increase of technique. There should be as definite a relation between the supply and demand of technique in industrial art as there is between the demand and supply of any commodity. Industrial art is not to be judged by the technical results obtained, but by the knowledge the child has gained of the uses and possibilities of the material. Do not give the child a lot of characterless objects to make. The standard of industrial arts should be use, beauty, or both. Keep the work close to the lives of the pupils. Let them make wagons, paper dolls, dresses, hats, table mats, rugs, carpets, blankets, furniture, dishes, houses, baskets; let them model vases and jars and household utensils. Allow them to illustrate their nursery rhymes, their literature lessons and the characters in their stories. Make the story, people, and places *live* by means of graphic illustration. While they are weaving read to them Longfellow's *Spinning Song*. If you are fortunate enough to possess a gramophone, put on the ‘Song’ and let them work to the musical rhythm.

Guide the work in industrial art, but allow the pupils some opportunity to suggest how to make an object and to discuss ways and means.

Give the child one step and let him think out the next. A repetition of known processes is deadening—give him credit for some memory.

The moral effect of industrial art in the kindergarten-primary is apparent. "The child's ideas and thoughts become tangibly visible. Hand-work must be true and clear to be worth while. A mistake in the concrete cannot be hidden. It carries its results with it. The child who works with his hands must think, deliberate, and stand by his conclusions".

Industrial art gives the child opportunity for efficiency in social service. He is full of the desire to contribute something. If wisely directed it enables the child to contribute things of beauty and value and therefore creates social pride. "Exclusively intellectual effort is subjective and incomplete, and may become selfish in its motive, but work with the hands is altruistic, objective and humanizing". Almost every child is impelled by a desire to experiment with his hands, to materialize his desires by the help of simple tools. Genuine thinking is stimulated when the industrial project is directly and immediately related to the child's needs.

The great end to be gained is the *educational value* of the work and not the *commercial value*. Toys, baskets, and articles made can be bought for a few cents, but the reasoning, judgment, control, originality, accuracy, self-forgetfulness and power developed, cannot be purchased. Dr. Francis W. Parker has said: "It is impossible to do all-sided educational work without training in hand-work. Industrial art is the most important factor in primary education and it remains a prominent factor in all education."

Dr. Dewey says: "The child impulse to *do* finds expression first in play, in movement, gesture and make-believe, becomes more definite and seeks outlet in shaping material into tangible forms of permanent embodiment." Again he says: "The child who employs his hands intelligently in the school-room, in due proportion, is satisfying one of the most powerful interests within him. He is cheerful; he is the picture of health, and his best emotions and impulses are easily kept active."

"Every task, however simple,
Sets the soul that does it, *free*".

Writing of children, Longfellow said:

"Ye are better than all the ballads
That ever were sung or said,
For ye are living poems,
And all the rest are dead."

We may not agree that poetry is *dead*, but we can make it live for the children by having them illustrate their lessons in literature. When so much is made of visualization in reading, why not carry it on into the

broader realm of literature? Not all poems admit of illustration, but many of them do. A great many nursery rhymes are especially suitable for visual expression, as are also many of the lessons in the primer and several of the songs and stories used in primary classes.

"The things a child can make
May crude and worthless be;
It is his *impulse to create*
Should gladden thee".

Rainfall of Australia

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[In the December issue there appeared the outline of a method of teaching the geography of a continent from the rainfall map. This article gives an application of the method to the geography of Australia.]

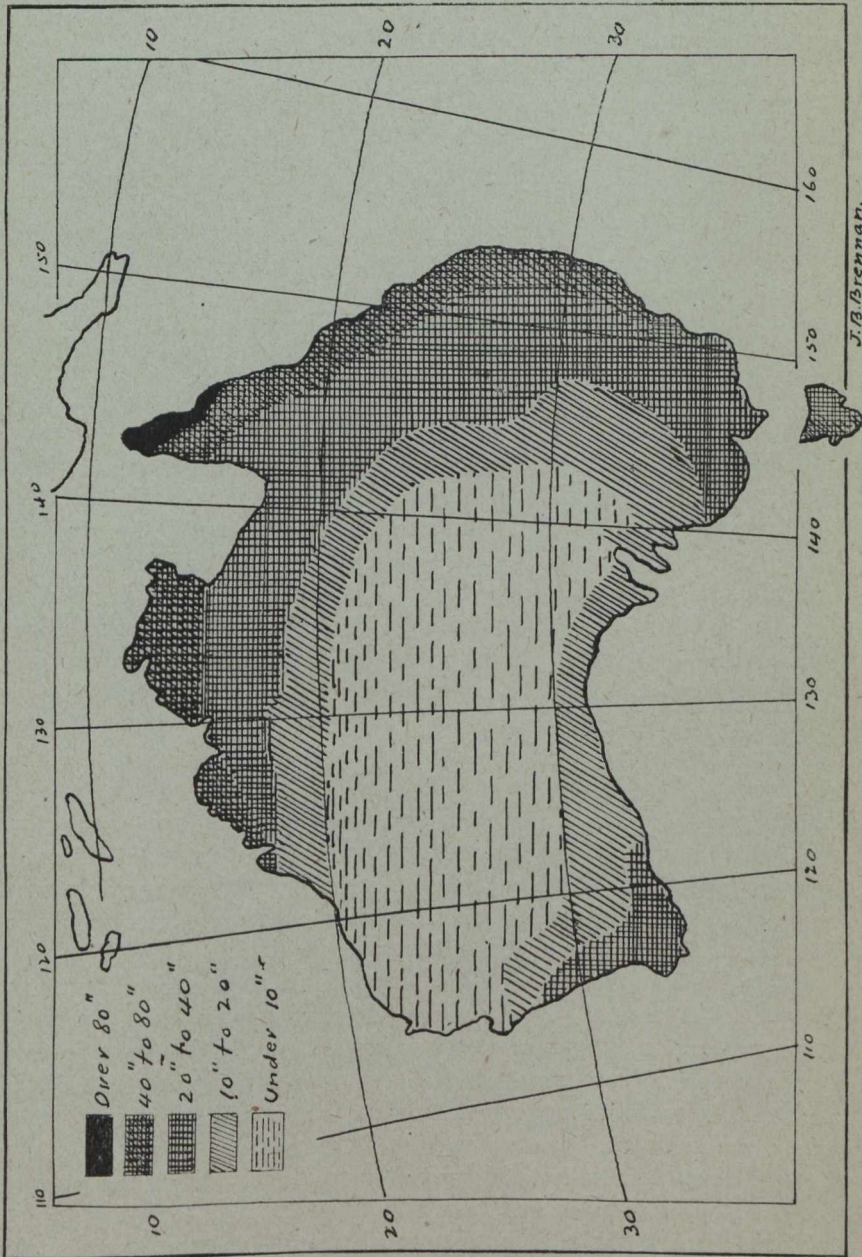
NOTICE:

1. The surface features of Australia comprise three main divisions:
 - (a) On the east there is the Great Dividing Range which stretches continuously from Bass Strait to Cape York Peninsula.
 - (b) A central plain right across the continent from the Gulf of Carpentaria to the extreme south.
 - (c) On the west, the Western Plateau, a fairly level tableland about 1,000 feet above sea-level.
2. The western part of the south coast is an almost unbroken wall of rock. For nearly 1,000 miles this part of the coast-line is unbroken by a river flowing into the sea.
3. The greater part of Australia lies within the tropics.
4. The prevailing winds are the south-east trade winds and the north-westerlies.
5. The north and north-western parts of the continent are affected by the northwest monsoons.

Most of Australia lies directly in the path of the south-east trade winds. These winds bring a plentiful supply of rain to the east coast but as most of their moisture is precipitated on the east side of the Great Dividing Range, they reach the interior as dry winds. Hence, much of the interior is a desert. It might be expected that the winds from the Great Australian Bight would carry rain to the desert, but they blow from a cold sea to a warm land and thus their capacity for holding moisture is increased.

The north-westerlies deposit their moisture on the lands along the Bass Strait, and on the south-west tip of the continent.

AUSTRALIA - RAINFALL.



The north and north-west coasts are alternately very wet and very dry on account of the coming and going of the north-west monsoons.

The deficiency of rain over the greater part of Australia confines agriculture to the edges of the plateaux and the coast-lands, but as sheep pasture is less dependent upon rain than any other pasture, wool is the greatest Australian product.

NOTE.—The December number of the *National Geographic Magazine* for the year 1916 is entirely devoted to Australia. This is a delightfully instructive dissertation and should be read by every teacher of geography.

The War in the Air

(Continued from the April number).

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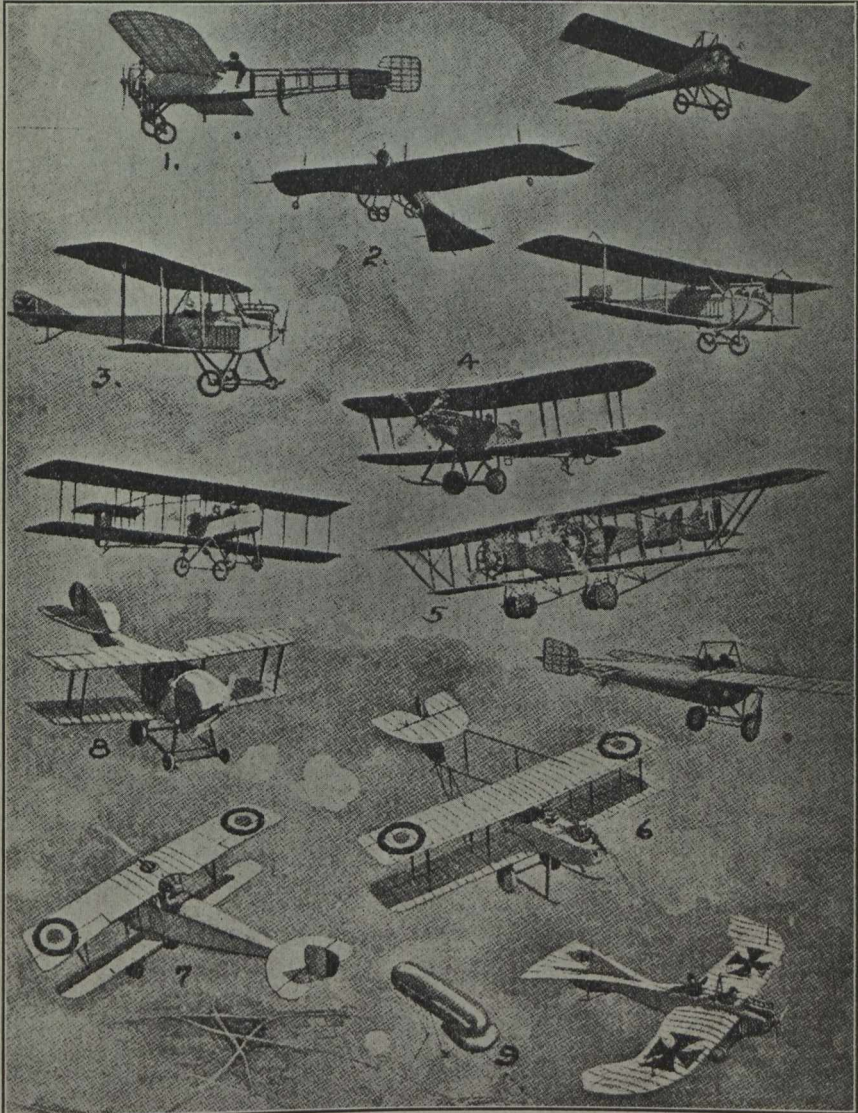
IN 1917 a Handley-Page, carrying six men, flew from London to Rome, stopping only at Paris, Marseilles, Pisa, and Turin. Leaving Rome it flew to a station in the Balkans whence it bombed Constantinople. Italy has two good types, the *caproni* and the *sia*. Captain Laureati with a passenger flew a *sia* from Turin to London, 700 miles, in a little over seven hours. The new United States *Liberty* plane is a standardised machine combining the best features of all modern craft and it may be expected to be a valuable addition to our fighting forces.

The deduction from this is that if the war lasts for another year all European belligerent countries will find themselves attacked by big bombing airplanes capable of carrying a ton or two of bombs apiece at a speed of 100 miles an hour and of dropping them at least 250 miles from their starting-place. This means an extending of the war area and the bringing of nearly all the inhabitants of the belligerent countries into direct contact with the trials of the war.

What then is the place of the airplane in this war? The famous "they shall not pass" of the French before Verdun has crystallised into a maxim for the whole western front. But, while there seems no open road to Berlin on the ground, there are a thousand roads in the air. But we must grope our way; the roads are uncharted; there is no encyclopedia of information. We can collect all the known data; we can select the best of engine, body, and propeller; and then comes the question: "How are battles fought in the air?"

Two classes of planes must be borne in mind—one, the heavy machine for carrying bombs with heavy armament, designated as the two-seater; the other class is the light, fast-fighting machine, always a one-seater.

The fighting machine has two characteristics, speed and destructiveness. Two-seaters are used for observing, for photographing, for spotting



TYPES OF MILITARY AEROPLANES.

1. The Bleriot Monoplane used by France earlier in the War. 2. The Taube Monoplane used by Germany at the start of the war. 3. The Aviatik Tractor, a German high-powered biplane. 4. The B. E. 2 British Reconnaissance Tractor. 5. The Twin-Motored Cauldron, used by the French. This machine climbs very fast but is not very speedy. 6. The Vickers Pusher with gun. 7. The French Nieuport Speed Scout—a highly successful type, with excellent speed and splendid climb. 8. The Martinsyde Biplane, a typical British speed scout. 9. British captive balloon, used for artillery observation. Note the "appendix" an open cylinder through which the wind blows giving the craft stability.

From *Military Aeroplanes* by Grover C. Loening.

artillery fire, and for bomb-dropping. These machines are ill-suited to defend themselves against swifter enemy planes. A special guard of



SEVERAL MILITARY AEROPLANES.

1. The Morane-Saulnier "Parasol" Monoplane, a highly successful French speed scout, later copied in the German Fokker Monoplane. 2. The Albatross—a long range, heavy duty German Tractor which has proven to be an effective type. 3. The Twin tractor German Battleplane, with gunners in centre nacelle. 4. The Voisin "avoin de guerre," a pusher gun carrier. 5. The British Scout used by the British.

From *Military Aeroplanes* by Grover C. Loening.

fast fighters accompanies them on their trips, flying above, in front, behind, and right and left. If an enemy squadron is encountered the slow machines turn tail and make for safety. Aircraft have little to fear from anti-aircraft guns on the earth—"useless as an *archie*" is a proverb on the western front. An airplane moving 120 miles per hour covers 175 feet each second. If it is 12,000 feet high a shell cannot reach it under eight seconds. In this time it has darted 1,400 feet in any direction it chooses. Hits by *archies* are rarer than hen's teeth.

As already stated, fighting planes mount one, two, or three machine guns, generally fastened rigidly alongside the engine with converging sight, thus cutting a deadly cone of fire in front of the machine. To cope with such a craft a pilot must by skilful manœuvring approach it from its blind side in delivering the *coup de grace*. It is no surprise that the Germans have broken another of their agreements at the Hague Convention by firing explosive bullets from their aircraft machine-guns.

Bombing machines carry various types of projectiles, and bomb-dropping like *archieing* is largely a matter of luck. A bomb dropped from an airplane starts with a forward velocity equal to that of the plane. If this velocity is ninety miles an hour, and the height is 10,000 feet, the bomb will light 1,100 yards in front of the objective. This result is modified by wind, cross-currents, and the amount the plane is off the horizontal at the moment it releases the bomb. The *gothas* which raided London used explosive bombs each containing 110 lbs. of trinitrotoluol, the terrible TNT which wrecked Halifax. The bomb is cigar-shaped with a percussion cap which explodes on contact. In the tail is a safety device which makes the bomb harmless until released; otherwise if the pilot should land with a bump he would be "hoist by his own petard"—the Germans think of *nearly* everything. Incendiary bombs are pear-shaped and are made of an oil- and pitch-soaked hemp envelope filled with thermit. One may get an idea of the intense heat developed by this chemical from the fact that, if gasoline is poured on wet wood and lighted it will burn, but will only slightly char the wood, while thermit under similar circumstances will completely consume it. These bombs weigh from 110 to 660 lbs.

Flying was introduced into the world as a thrilling sport after the automobile began to pall. England, France, and America have found it hard to disabuse themselves of this idea in meeting the Germans in the air. This sporting spirit—this desire to "get a Boche"—has resulted in the needless sacrifice by death or capture of hundreds of expensively-trained aviators, not to mention the loss of their machines and the consequent obtaining by the enemy of valuable secrets in airplane construction.

Seldom a day passes but we read in a daily paper a more or less inane comment on the "cowardice" of German airmen. The Allies hold the

supremacy of the air; they never come over our lines; we have to seek them far into their own territory; they never risk a battle unless they are overpowering in numbers; their only kind of offensive is night raids; if one does make an attack on a allied plane he swoops from the clouds firing as he comes and then dives to safety, victorious or not, refusing further combat. All these statements are in a measure quite true but it is to be feared that the explanation is to be found in that malodorous phrase "German efficiency" and not in the superficial and frothy "German cowardice".

Boelke, the greatest and most sporting German airman, said in a letter to his mother: "It has been said that German airmen never fly over hostile lines. As regards chasing machines that is true; but it should be remembered that our fokkers have some features which we ought to keep to ourselves and that our object is only to prevent hostile airplanes from carrying out their observations".

This is an illuminating statement when the results of such methods are analysed. As already mentioned, two valuable secrets fell into German hands through the capturing of our airplanes: the device for firing machine guns through the propeller and the Lewis gun.

The Outlook of January 30th, 1917, gives a most interesting summary of *aces* in the belligerent air-services. An *ace* is a fighting pilot who has brought down at least five hostile airplanes. The score is as follows.

<i>Aces.</i>	<i>Victories.</i>
64 Germany.....	1093
2 Bulgaria-Turkey.....	28
1121 victories by 66 aces.	
59 France.....	567
33 England.....	400
10 Italy.....	121
15 United States.....	22
5 Belgium.....	31
3 Russia.....	30
1,171 victories by 125 aces.	

What is the significance of this summary? Sixty-six aces of Pan-Germany have brought down 1,121 of our airplanes, while it has required 125 of our aces to bring down 1,171 German machines, that is, Germany with half as many pilots almost equals our score. This may not be palatable but it might be wholesome medicine at that.

The Germans have accomplished this by standardising their methods of air fighting as they standardize everything. Immelman, their first star, introduced the present *fokker* tactics; Boelke introduced the group system; Schaefer introduced the idea of travelling in pairs, one remaining aloft to guard against surprise, the other making a

single dive on his adversary. No German airman is a free lance. He *must* fight according to rule; he *must not* go out "on his own".

In direct contrast with this methodical strategy, our air scouts have been directed almost entirely by their own superior wits and splendid nerve. Each morning they go aloft to do their shift of "ceiling work", every one with a mind single "to get a Boche". It is to be noted that since last autumn our pilots have become more sobered, are ceasing to regard flying as a sport, and are making a grim business of it. This is undoubtedly a good sign and means ultimate success, because the nerve and resourcefulness of our pilots, tempered with system and proper caution, will make them unbeatable.

Thus, looping the loop, side slips, tail spins, and nose dives have ceased to be "stunts" and are systematically taught as a necessary part of every aviator's education. He learns as accurately as possible how to approach a German plane from its blind side, not to rush madly at it, taking the fire of three converging machine guns. While the German method of attack is nearly always to dive on a hostile plane from above the clouds, it was our own Major Wm. Bishop who first evolved the system of "sitting on his tail" below a German machine and leisurely shooting it to pieces through the floor. Following the German method, this should be taught as a standard method of attack until some change in the construction of German machines makes it obsolete.

It is too soon to foretell what 5,000 airplanes would do to the barrier of the west front, but it is easily conceivable that they would make it surmountable to our infantry where artillery and tanks have failed.

Diary of the War

JANUARY, 1918.

- Jan. 1. *British War Office announces that during December 1,018 German prisoners including 12 officers and 4 guns, three trench-mortars, and 103 machine-guns were taken by the British troops.*
- Jan. 2. Bolshevists denounce German conditions as a policy of annexations; they demand that the future of Poland and Lithuania must be settled by the inhabitants and that Germany must withdraw from the occupied provinces to enable a referendum to be taken. Italians defeat a thrust towards Venice and destroy several barges laden with Austrian troops as they try to cross the Piave at Intestadura, ten miles from the mouth of the river. Russian Cossacks under Kaledines receive many additions to their forces; they occupy Alexandrovsk without resistance being offered.
- Jan. 3. At Aupsach, Upper Alsace, the Germans are routed in attack on the French trenches. British line advanced slightly to the south of Lens.

- Jan. 4. General Haig reports four British advanced posts on the Cambrai front near Canal du Nord driven in by the Germans. Austrian forces retreat a mile in the Tomba sector and other places near Brenta Valley. Allenby advances his lines north of Jerusalem a mile.
- Jan. 5. *Turkey offers peace terms to Russia*, including free passage of the Dardanelles for Russian ships, Russian demobilisation of Black Sea fleet and evacuation of Turkish territory by Russian forces. Turkey is to retain her army because of her continuation of war against the Allies. *Premier Lloyd George on War Aims, after conference with Mr. Asquith, Viscount Grey, and Labour Party.* Speech is delivered before the delegates of trades-unions assembled in conference. The main points of speech are "reconsideration" of the Alsace-Lorraine seizure; the restoration of Belgium with reparation for injuries inflicted; the restoration of Serbia, Montenegro, and the occupied parts of France, Italy and Roumania; Russia can now be saved only by her own people, but an independent Poland is urgently necessary for the stability of western Europe.
- Jan. 6. British War Office announces an Arab raid on the Hedjaz railway, 20 miles south of Maan. Austrian gain a success against the Osum defending Avlona, Albania, but the Italians subsequently restore the positions. A trench section on the Cambrai front taken by the Germans on the 5th is re-occupied.
- Jan. 7. Rumours of a Bolshevik resistance to the advancing German troops reach London. Fighting in Mozambique, East Africa, at the junction of the Liwambula and Lujenda rivers; enemy defeated to the north in the Mwembe area.
- Jan. 8. *President Wilson's message to Congress on the objects of a world peace*; he declares for open diplomacy, the freedom of the seas, the removal of economic barriers between nations, the reduction of armaments, and for a territorial settlement similar to that of Premier Lloyd George. Great cold experienced on the Italian front; the danger to Venice except from the air is said to be removed.
- Jan. 9. French raid the German positions east of St. Mihiel for nearly a mile, doing much damage and capturing 178 prisoners and a number of machine guns. Germans sink the hospital steamship *Rewa* in the Bristol Channel; three missing. British destroyer *Racoon* lost on Irish Coast with all hands. General Haig's dispatches covering the operations in 1917 to the eve of the Battle of Cambrai published.
- Jan. 10. Trotsky is forced to agree to the German demand to continue negotiations at Brest-Litovsk, instead of at Stockholm. Ukraine delegates are to be represented at the conference. Austrians abandon some positions on the canal joining the mouths of the Piave.
- Jan. 11. British bring down four hostile airplanes on the Italian front; Austrians are forced to a further retreat on the Brenta front. War Office announces three columns of British troops from the Rovuma river, from Lake Nyassa, and from the coast, in conjunction with the Portuguese, are in pursuit of the German forces which escaped into Mozambique. Many changes in Admiralty announced.
- Jan. 12. It is announced that a British column has disembarked at Port Amelia, Portuguese East Africa. French defeat a German attack at Chaume Wood on the Verdun front.

- Jan. 13. Italian aviators drop two tons of bombs on the railway terminus at Primolano. British Admiralty publishes detailed statement of changes of personnel of the Board and of alterations in its organization.
- Jan. 14. Wintry weather on all fronts. Italians advance east of the Brenta Valley in the Asolone district, taking 491 prisoners. Leon Trotsky proposes that the armistice between Russia and Germany be prolonged for another month. Sir Auckland Geddes introduces new Man Power Bill in the House of Commons; 420,000 to 450,000 men wanted from munition factories, shipbuilding works, etc.; age limit not to be raised or lowered; compulsory service not to be extended to Ireland. Yarmouth bombarded by enemy destroyers; four killed and eight injured.
- Jan. 15. *Result of Cambrai inquiry announced by Mr. Bonar Law in the House of Commons.* British higher army command had not been surprised by the German attack in the Cambria region on the 30th of November and all proper dispositions had been made to meet it. Admitted that a breakdown undoubtedly occurred. Austrian strikes become serious. Russians order the arrest of the King of Roumania.
- Jan. 16. General Diaz gains victory in a lively skirmish on the Italian Front. Butter cards introduced in London. United States publishes documents bearing on the Caillaux case—messages from Count Bernstorff on Caillaux's visit to South America in 1915.
- Jan. 17. British ship losses for the week show a great reduction. Turkestan is proclaimed an autonomous republic allied to the federal republic of Russia.
- Jan. 18. British line in Palestine near Durah, 12 miles north of Jerusalem, advanced on a four-mile front. Grave disorders in Petrograd. Constituent Assembly meets and amid wild confusion refuses to submit to Bolshevist dictation; processions celebrating its opening shot at in the streets by the Red Guard. Two British destroyers wrecked in a gale off the Scotch coast.
- Jan. 19. Sir Launelot Kiggell is succeeded by Sir Herbert Lawrence as Chief-of-Staff to Sir Douglas Haig. The Constituent Assembly is forcibly dissolved by Bolshevists.
- Jan. 20. *Naval engagement off Imbros; Goeben and Breslau emerge from the Straits and sink H.M.S. Raglan and a small monitor (M. 28); south of Imbros Breslau manoeuvred by H. M. destroyers Lizard and Tigress into a minefield and sunk. Goeben flying for safety with four destroyers and an old Turkish cruiser strikes a mine and is forced to beach at Nagara Point. Two German destroyers mined and destroyed in the North Sea; 17 survivors.*
- Jan. 21. Austrian political strike ends after Socialists extract from Count Czernin a fresh repudiation of annexationist war aims. Sir Edward Carson resigns from War Cabinet. British column in contact with part of von Lettow-Vorbeck's force fifty miles from coast. *Germans announce agreement on principle of treaty of peace with Ukraine.*
- Jan. 22. The Irish question seems for the nonce more hopeful of settlement.
- Jan. 23. Trotsky sends to all foreign countries a communication which states that German peace conditions constitute "a demand for a most monstrous annexation". Germans enter French trenches at Nieuport but are driven out again.
- Jan. 24. Count Hertling and Count Czernin reply to President Wilson's and Premier Lolyd George's speeches on war aims. Count Czernin's is quite conciliatory and opposed in many particulars to Count Hertling's. Mine disaster at Stellarton, Nova Scotia; 87 victims.

- Jan. 25. Hon. W. J. Hanna resigns as Food Controller for Canada and is succeeded by Mr. H. B. Thomson. Russians decline to accede to the demands made by the Germans at the Brest-Litovsk peace conference. Enemy raid east of Loos. Fighting reported in Finland between Bolshevik Red Guards and the Finnish Senate's troops; Finnish authorities said to have applied to Sweden for help.
- Jan. 26. British announced to have taken over more of the French front; the British line now extends south of St. Quentin.
- Jan. 27. The *Goeben* is refloated and taken to Constantinople.
- Jan. 28. The Cunard Line steamship *Andania* is torpedoed and sinks before reaching a port on the Ulster Coast. *Italian attack between Asiago and the Brenta Valley; Col del Rosso with 1,500 prisoners taken.* Air raid on London by 15 Gothas, in three groups, of which about five penetrate the defences. In a subsequent attack one machine reaches London; 47 killed and 169 injured; about 70 British airmen up; one raider brought down in flames in Essex. Torpedo-boat *Hazard* sunk in collision in Channel; 3 men drowned. Strikes in Berlin, Hamburg, Kiel and other places. Helingsfors reported captured by Red Guards and the Finnish Senate overthrown.
- Jan. 29. Italians make further progress; Monte di Val Bella taken; total prisoners 2,600. *Mr. Baker, U.S. Secretary for War, announces that America will have an army of 500,000 men in France early this year with a million more trained and ready to follow quickly.* Attempted air raid on London; bombs dropped in the outskirts.
- Jan. 30. British have completed their dispositions against any possible offensive by the enemy.
- Jan. 31. It is reported that diplomatic relations between Roumania and Russia have been severed and that civil war is raging in Finland.

Gazetteer of the War

Gaza.—48 miles south west of Jerusalem: 2 miles inland from the Mediterranean Sea. Remarkable for its existence from the remotest times. During King David's reign it was one of the strongest Philistine cities. Estimated population 40,000. Some splendid Turkish mosques adorn the city. It is in a region noted for the richness of its vegetation. On November 1st, Gaza's first line defences were carried by General Allenby's forces. (1917). Captured by the British November 7th.

Beersheba.—40 miles southwest of Jerusalem. At the extreme south of ancient Canaan. ("From Dan to Beersheba"). The present site of the ancient city is only a mass of ruins with here and there a solitary dwelling place. General Allenby passed about 11 miles north of this, capturing the Turkish lines along the Wadi (swamp or river) Khuweilfeh. November 6th, 1917.

Askalon (in the Bible Ashkelon).—Another of the powerful Philistine cities of King David's time. Has wonderful historic interest. In the time of the Jews it frequently changed hands from the Jews to the Philistines. In turn the Egyptians, Greeks, and Romans possessed it. Besieged by the Crusaders without success in 1100 and 1148. Richard I of England captured it 1191. Taken again by the Turks. About 40 miles west by south of Jerusalem, harbouring on the Mediterranean. British occupied it November 9th.

Italian Successes and Reverses

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Autumn, 1916. As recorded in a previous article on Italy's part in the war, (April, 1917), the campaign of 1916 ended with the capture by the forces of General Cadorna of the important city of Gorizia situated about midway between Tolmino on the north-east and Trieste on the south-east. This event took place on August 7th. During the remainder of the year, 1916, the Italian leader busied his men with strengthening their positions and keeping back hostile attacks. Campaigning in the mountains is impossible in the winter, but the time is useful for bringing up the needed supplies and men for the spring offensive.

The Spring Drive, 1917.

Immediately to the north of Gorizia, there is a series of heights which control the approaches to the city. On May 14th the Italians crossed the apparently impassable gorge of the roaring Isonzo river and captured the height on the east bank known as Monte Cucco. This engineering feat was carried out with a seeming disregard of all accepted military tactics and strategy. In this offensive, continued unremittingly for twenty-five days, the Italian army advanced east and north, capturing the Vodice Ridge and other heights, while to the south the entire line moved forward till they had invested the lofty Monte Hermada, the possession of which would be requisite to any advance on Trieste. In these twenty-five days 28,000 Austrians were captured and at least 100,000 rendered *hors de combat*.

Summer Drive, 1917.

On August 18th began the second and more spectacular offensive. Four distinct forces took part in the work. To the north was the second army in command of General Cappello; to the south the third army in command of the Duke of Aosta. To assist the latter there were Italian and British monitors, mounted with the greatest naval guns, to bombard the heights of Hermada and the ports of Trieste and Pola; Great Caproni aerial machines, each capable of carrying as many as twenty-five men, also assisted in the attack. The objective on the north was Tolmino and on the south the coveted port of Trieste.

By diverting the waters of the Isonzo by night above Anovo and allowing them to flow back on their usual course by day, Italian engineers

made it possible for the army of General Cappello to cross the river in one night on pontoon bridges already prepared. The Austrians, attacked on three sides, began a hurried retreat over the Bainsizza Plateau. On August 24th, Monte Santo (2,240 feet) was taken, and on September 14th Monte San Gabriele (1,700 feet) which latter, however, afterwards changed hands several times. In a campaign of less than a month, General Cappello had advanced on a front of eleven miles to a depth of eight miles, occupying all fortified positions and over forty villages. On the south the Duke of Aosta captured Selo and the safety of Trieste was so endangered that civilians were ordered to evacuate the city. Over 30,000 prisoners were taken by the Italian armies in this drive. Never had the hopes of Italy risen so high.

**Austrian Appeal
for Aid.**

During the summer of 1917 the revolution in Russia occurred and the total collapse in that country of all military plans and endeavour. The Austrians, reinforced by divisions drawn from the Russian front and by some Turkish and German troops, began to stiffen their resistance. At the same time an appeal for aid was directed to their great ally, and Germany replied by sending from the Russian front a large army under the command of General Otto von Below, supported by General von Krabotin and three other generals, tried veterans of the Russian campaigns.

**German
Propaganda.**

For nearly a year, the Italian troops on the Plezzo-Tolmino front had been in the trenches. Made up largely of Socialist workers and peasants, they had begun to follow the example of the Russians by fraternizing with the Austrians opposite. The latter showed them forged copies of Italian papers, containing reports of riots in Naples and Genoa, of famine in Sicily and of outrages committed by French and British troops on women and children in Italian towns. The Austrians promised they would not shoot, but would refuse to kill their Italian brothers. The rumours were industriously spread that the Pope had arranged a peace. They were told to throw down their arms and go home. Soldiers also received letters from their peasant wives, saying, "Peace has already come; do not throw away your life". Unsettled by these rumours the soldiers of the Second Army became demoralized and were virtually ready to go on strike.

**Blind
Optimism.**

The disposition of the Italian armies had already aroused the warnings of military critics who had pointed out the dangerous situation which would result if either the left flank of the Italian army, thrown out toward Tolmino, or the right flank resting on Hermada, should be

turned by a sudden assault. But in spite of this, General Cadorna had not had positions prepared for a possible retirement, and though there was no lack of man power, a strong army of reserves was not kept within striking distance; as a matter of fact, the Fifth Army had been demobilized. There seems to be evidence of treachery "higher up," both among the politicians and army commanders.

The Debacle! First Phase.

On the 21st of October, 1917, the Austro-German offensive began by a heavy bombardment of the Plezzo-Termino lines, held by the Second Army. On the night of the 22nd of October, the Austrian troops in this sector were replaced by German shock troops who began an attack on the Tolmino bridgehead. The Italian soldiers, thinking it was their Austrian "brothers", offered little or no resistance, many throwing down their arms and others endeavouring to welcome their opponents, who thrust them rudely aside and pressed on. These German troops did not stop even to collect the prisoners, but rushed against the second and third lines, leaving to the hosts that followed the task of rounding up prisoners and capturing guns. The whole Italian army was outflanked and a retreat, one of the most disastrous in all history, soon degenerated into a rout. The Second Army evacuated the Bainsizza plateau with the object of defending Gorizia, but was defeated and the city captured on October 28th. By this date the Italian armies had lost 100,000 men in prisoners and over 1,000 guns. During this same week the army of General von Krabotin had attacked the Third Army which gave way and retreated toward the sea. The whole Isonzo front collapsed like a pack of cards. On the 29th the Austro-Germans had reached the little city of Udine, the former headquarters of the Italian staff. The civilian population of these districts joined in the retreat, rendered still more difficult by a steady autumn rain. An attempt was made to stay the invading forces at the Tagliamento river, the next natural obstruction, but on November 5th this also was abandoned. By this time the Italians had lost 250,000 men taken prisoners, besides their losses in killed and wounded. Immense supplies of munitions and food, and 2,300 guns, were captured by the enemy. In less than three weeks the territory won during two years of war was lost and Italy was invaded. But once the Italian soldiers realized what was happening, they fought with a fierceness and determination which excited the admiration of the Allied countries.

Second Phase

In her extremity Italy appealed to her Allies and the response from Great Britain and France was prompt and effectual. The French and British premiers went to Italy with many military leaders while British

and French troops, with guns, munitions and supplies, joined the sorely-tried soldiers of Italy. The Germans made further advances, it is true, driving the Italians back to the Piave River. But here they were stayed and at the time of this writing (April 5th, 1918) are strongly held on the whole line of defence. To insure the safety of Venice, the low-lands at the mouth of the Piave River were inundated. Venice was evacuated by the greater number of its inhabitants. A great deal of damage has been done to this and other cities by the enemy's airmen who seem to take special pleasure in destroying the masterpieces of Italian art and architecture.

The Allied commanders, convinced that the line of the Piave could not be held, employed the French and British reinforcements in fortifying the Adige, the next important river. But the abandonment of the Piave positions would involve the sacrifice of Verona, Vicenza, Venice, and other historic cities. Emulating the French battle-cry at Verdun, the Italians kept repeating "Da qui non si passa!" ("They shall not pass") and a new spirit seems to be inspiring the soldiers of Italy. Attack after attack has been driven back and with the return of favourable weather in the month of May it may confidently be expected that an offensive under the new commander, General Diaz, will hurl back the invaders to their own borders.

Nature Study for May

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FOR THE FIRST FORM—*The Horse-chestnut.*

For the Teacher.—The horse-chestnut is one of the commonest of ornamental trees, and the pupils in the first class should be able to recognize it. Call their attention to the general shape. It is rather broad and rounded with a short trunk that cannot be traced very high. Notice the peculiar habit of the lower branches of bending downward, then outward, and finally upward at the end. This is evidently for the purpose of reaching out of the shade so as to bring the leaves into the unobstructed sunlight.

Before the tree comes out in leaf have the pupils observe the buds. Some of the terminal buds are very large. Each contains a whole cluster of flowers and the wonder is that so much can be packed into such a small space, for the bud contains also a number of leaves. Draw the attention

of the pupils to the gummy substance and the tough scales on the outside. These are to prevent the delicate parts within from drying out by evaporation. The idea that they keep the parts within from the cold during the winter is quite absurd, as undoubtedly a thin layer of the most non-conducting substance in the world would be readily penetrated by the cold. Then draw the attention of the pupils to the opening of the buds. The leaves are all covered with dense hairs, and as the bud scales open, the leaflets first hang down vertically and later, when they are more fully developed, they spread out horizontally to receive the full sunlight. Have the pupils examine the cluster of beautiful flowers at the end of each stem; on a bright sunny day swarms of bees can be both seen and heard as they visit the flowers for nectar.

Work for the Pupils. Have each pupil observe the general shape of the tree, and the fact that the trunk cannot be traced up to the top of the tree, also the peculiar habit of the lower branches, described above. Have each pupil bring a twig of the horse-chestnut to school and place it in a bottle of water. All the movements in the opening of the buds can be observed. Then have the pupils observe the tree in flower, the bees visiting it, the shape of the leaf, and the odour of the flowers. In an art lesson have the pupils make a drawing of the leaf.

FOR THE SECOND FORM.—*The Meadow-lark.*

For the Teacher.—This beautiful and attractive bird is none too difficult for a second class to study. Meadow-larks arrive quite early in the spring, the first ones appearing in March, and by the first of May



Fig. 1.

NEST OF THE MEADOW LARK.

From *Birds of New York* by E. H. Eaton, The University of the State of New York.

the fields and meadows are vocal with their calls. It is not necessary to give a lengthy description of the plumage, because no other bird is likely to be confused with it. When a bird slightly larger than a robin, with its back marked with light and dark stripes, its throat a beautiful yellow bounded below with a dark crescent, is seen in the grass of

the meadows or perched on the fence or in a tree in the vicinity, it is sure to be the meadow-lark. There is not much use trying to approach too closely to him, for he is very distrustful of man, and at the first alarm away he flies from his perch. If you notice where he alights in the field and move up stealthily toward the spot you will not find him, for he sees you long before you are aware of it and runs off rapidly through the grass. This bird can easily be detected as it flies, for on rising it makes a buzzing sound with the wings, and the white feathers bordering the tail are very conspicuous in flight.



Fig. 2.

UNFOLDING OF BEECH-LEAVES.

1. Brown scales are loosened. 2. Later stage, foliage leaves are visible. 3. Later stage than 2.
4. Lower surface of a leaf in an opening bud. 5. Part of same leaf. 6. Surface of unfolded leaf. 7. Vertical transverse section of leaf. 8. Vertical longitudinal section of leaf.

From *The Natural History of Plants* by F. W. Oliver, Blackie & Son, London.

In the spring this bird is very busily engaged devouring grubs, beetles, and grasshoppers in the meadows, and during the autumn, while it changes its diet, it is still helping the agriculturist, for it lives almost entirely on weed seeds.

Its song is one of the best known sounds on the meadow and it never ceases from early spring to late autumn to pipe its stirring notes. It has a variety of calls which are well worth a closer study.

The place selected for building its nest has almost been its undoing. Since man came on the scene with a desire to make hay and run sharp-toothed mowers close to the ground in the meadow, many a little fluffy mass of down is cut to pieces by the cruel blade of the mower, all unknown

to the kind-hearted farmer. The fault is scarcely that of the meadow-lark for she builds on the ground a dainty nest of brown straws with an arch of dried grass above it, so that it is almost impossible to detect, and the eggs mottled with brown are almost as inconspicuous as the nest. After sixteen days' incubation from four to seven still more inconspicuous little fledglings emerge from the eggs. It is simply impossible to detect them when they keep quiet, and they always do keep quiet when their enemies are near.



Fig. 3.

1. Wild Cherry. 2. Later stage of wild cherry. 3. 4. Walnut in two successive days. 5. 6. Snowball Tree or Guelder Rose. 7. Cinque-foil. 8. Wood Sorrel.

From *The Natural History of Plants* by F. W. Oliver, Blackie & Son, London.

Work for the Pupils.—Place a coloured picture of the meadow-lark on the wall and draw the attention of the pupils to its colour and size. Tell them where it can be found, and then give time for each to become acquainted with this bird. Give a series of easy observations to be made, involving the facts about its habits cited in the foregoing. If a nest is found, after the young have left it, have a boy take a spade to the field, dig up the sod and bring the nest intact to the school, when the whole class can study it. (Fig. 1).

FOR THE THIRD FORM.—*The American Gold-finch.*

For the Teacher.—The foolish person who longs for a look at a tropical forest in order to see some brilliantly-plumaged birds should look carefully in our Canadian thickets in May and June and he will find birds as beautiful as are to be seen in Brazil or in India. One of the most glorious of these is the goldfinch, which flies in beautiful undulations like a flash of sunlight. This very common bird is frequently called the wild canary, but it is better to give it its proper name of goldfinch. It is one of the finches and has a sparrow's beak. The male, with its bright lemon-yellow body contrasting with the velvety black cap, wings, and tail is a most striking creature. In the spring these birds are very commonly seen in trees and hedges. On a sunny June morning to listen to a goldfinch, perched in the top-most limb of a tree in the orchard, pouring out a flood of song, is an event to gladden the heart and elevate the soul. Then off he goes in a series of vertical undulations as if skimming the surface of a troubled sea. With every undulation he utters his loud call "per-chick-a-pee".

His little wife, though dressed in a more modest attire, is also beautiful.

The goldfinch is a strict seed-eater. In the spring it devours greedily the seeds of the dandelion, and in the autumn those of the thistle, chickweed, etc. If you ever try to grow lettuce for seed, take care the goldfinch does not reap the harvest for you.

In the late autumn most of our goldfinches leave us, but a few probably linger throughout the winter in the south-west peninsula, eating the seeds of the birch, alder, and hemlock, as well as of any weeds that keep above the snow.

The tedious labour of incubation is postponed as long as possible by this little bird, and it is not uncommon for the young to be reared as late as July or even August. A very dainty nest is constructed in a bush or low tree and nothing less than dandelion gossamer is fit for a lining. After incubation the male takes on the more sombre costume of his mate and together they play havoc with the seeds of the thistle. Hence it is often called the "thistle bird".

Work for the Pupil.—This can follow the lines indicated for the meadow-lark in the work for the second form.

FOR THE FOURTH FORM.—*The Opening of the buds.*

For the Teacher.—The bud that opens in the spring was produced last summer. Down in the axil of the leaf, almost as soon as it opened, a little tubercle appeared, and throughout the whole season that tubercle grew in size and complexity. It is never noticed till the leaf falls in the autumn, and it is left exposed. The bud is to develop into a branch and

the beginning of the process is the opening of the bud. One of the great differences between foliage leaves and flower leaves is the fact that the former always have buds in their axils while the latter usually have not. If the bud is dissected, it is found to consist of at least two kinds of leaves, scale leaves and foliage leaves. The former are on the outside, are frequently covered with gum, and are not green, but dry and brown. They are impervious to water and so prevent the parts within from giving off their moisture; without them these inner parts would shrivel up and die. Within are the foliage leaves, packed tightly away, and folded in the most complex manner. In fact, it is an interesting study in itself to observe the different ways in which leaves are folded in the bud. Figure 3 shows some of these methods. As the warmth of spring sends the sap up the stem and into the buds, they begin to open; first, the stem lengthens and the scale leaves separate; then, the foliage leaves become exposed above the scales. The delicate leaves at first stand vertically and so prevent the rays of the sun from striking them too intensely; then, as the cuticle thickens, they spread out horizontally and drink in the sunlight, using its energy to accomplish their purposes of manufacturing plant food. As soon as the protective work of the scale leaves is completed, they drop off; the stem of the bud continues to lengthen, and a leafy branch is formed. Some buds contain not only leaves but flowers. The larger buds on the horse-chestnut are of this character as are many of the buds on a fruit tree. The buds are arranged either terminally or laterally. Not every bud formed in the axil of a leaf develops into a branch during the succeeding year. If they all developed, the branches would be so numerous as to form a tangled mass. Many buds remain dormant, and act as reserves. If all the large buds are pulled off a twig, one or more of these dormant buds will at once begin to grow, the stream of sap, formerly going to the other buds, being now directed toward it.

Work for the Pupil.—Have the pupils examine and dissect a bud of the lilac, then one of the large buds on the horse-chestnut. Make a longitudinal section through each. Have them note the scale leaves and foliage leaves in each bud and the bunch of flowers in the bud of the horse-chestnut. Examine the twigs of various trees for dormant buds, and note the different shapes of buds. Put twigs or stems of the plants illustrated in figures 2 and 3 in water, and trace the opening of their buds as shown in the illustrations.

The bad boy wrote on the blackboard: "Our teacher is a donkey." The other boys anticipated ructions when the schoolmaster arrived; but there were none. He merely wrote the word "driver" after "donkey," and school opened as usual.

The April Competition in Art

SO large is the number of entries for these competitions, so great the amount of room required to store the drawings, of office time to tabulate them, of the committee's time to examine them, and of space to print complete results, that it has become necessary to make a restriction and to require that *not more than seven drawings may be sent from any one class or grade*. This will, of course, entail some little work on the teacher's part in making a selection of the seven best pieces of work but it will, in the aggregate, save a great deal of labour, of postage, and of paper. It is hoped that teachers will understand the situation and will co-operate. In this issue, on account of limitations of space, only seven names from each school could be printed, though practically all pupils did good work.

The number of schools contributing to this contest is constantly increasing; and the quality of the work is steadily improving. So large was the number of drawings submitted this month and so narrow the margin of difference in merit that the judges had great difficulty in awarding the prizes justly. The best work was excellent; the worst, good. This speaks well for the teaching. A few years ago work of such excellence could not have been found in our Public or Separate Schools.

On the work of the High School pupils the following criticisms are submitted. In the Lower School Competition: (1) The drawing of the vase was out of balance. (2) The decoration on the vase, when drawn in the round, showed no foreshortening. (3) The decoration was not based, as required, upon some nature motif but historic ornament or some geometric development was substituted for it. Neither were the vase and ornament rendered in a dominant harmony of colour as required. The ornament was very frequently too realistic to be truly decorative. In the Middle School Competition: (1) The drawing of the lampshade was in many instances in poor perspective. The convergence of the base and of the shade of the lamp was not, as it should have been, towards a common eye-level. (2) The proportion of the parts was often incorrect, the width being too great for the height.

A. Forms I and II.

First Prize—Madge Wincott, Alexandra School, Moose Jaw, Sask. Teacher, Miss A. B. Jones.

Second Prize—Seraphine Lobsinger, Separate School, Mildmay. Teacher, Sister Bertrand.

Third Prize—Helen Horning, Ryerson Public School, Owen Sound. Teacher, Miss Helen Shaw.

Honourable Mention for Merit—Rose Hayes, Helen Desrochers, Cecile Soucy, Catherine Griffin, Mary Kernahan, Yvonne Poissneot, St. Joseph's Academy, Toronto. Lloyd Thomson, Wilbert More, Eleanore Richards, Louis Sullivan, Margery Spalding. Harry Gregory, D. Horne, Public School, Port Colborne. Vivian Blix, Edith Romans, Ursula Walmsley, Dorothy Sparrow, Audrey Rennick, Stanley Slow, Ortlely Swenson, and others, Alexandra School, Moose Jaw. Jessie McKay, Mollie McAlister, Amy Whitehead, Eleanora Frederick, Vera Monroe, Vera Gibbs, Vera McEwen and others, Prince Arthur School, Moose Jaw. Irene Edmondson, Clara Causmeau, Olga Wasley, Willie Brown, Miriam Bailey, Ernestine Hudson, Empire School, Moose Jaw. Bartley Pragnell, Bryce McKenzie, Elsie Tanner, Winifred Noonan, Kathleen Noonan, Eleanor Seymour, Gladys Mathews and others, Victoria School, Moose Jaw. Graham Henderson, Herbert Gray, Alex Sutherland, Eugene Baker, Anna Wilson, Velma Cross, Roy Ellis and others, King George School, Moose Jaw. Ida DuChaik, Millicent Rose, Marion Roberts, Edith Plunkett, Janet Hewitson, Edith Bullock, Winnie Gill and others, King Edward School, Moose Jaw. Evelyn Young, Donald Dowkes, Nelson Pickell, James Jones, Harold McCaskill, Robert Miller, Myrtle Hart, and others, Dufferin Public School, Owen Sound. Archie Gardner, Florence Peel, Lillian Harrison, Margaret Reid, Charlotte Fenton, Zella King, Helen Merritt, George Finickam, Ryerson Public School, Owen Sound. Marianne Stroeder, Mary Diemert, Joseph Goetz, Florence Buhlman, Alfred Herman, Kathleen Kunkel, Isabel Goetz, Separate School, Mildmay.

B. Forms III and IV.

First Prize—Lilian Marchant, Perth Avenue Public School, Toronto. Teacher, Edward H. Thomas.

Second Prize—Oscar Sanderson, Prince Arthur School, Moose Jaw, Sask. Teacher, W. H. Metcalfe.

Third Prize—Katherine Kindree, Ryerson Public School, Owen Sound. Teacher, Miss Agnes Burt.

Honourable Mention for Merit—Valarie Hester, Mary Hayes, Prima Boyer, Norma McGraw, Blanche Crowley, Lucille Bennett, M. Chadwick, St. Joseph's College, Toronto. Geraldine Kew, Annie Bociek, Florence McNamara, Stella Pilecka, Salvatore Padrone, Stella Malec, Caroline Bociek, and others, St. Ann's School, Hamilton. Edna Clarke, Mary Howes, Jean Porter, Bessie Dolan, Grant Stevenson, Public School, Meaford. Bernard Harrigan, Laurence Muldoon, Louise Wall, Frances Leslie, Mary O'Reilly, Celestine Aussem, Helen Cassidy, and others, St. Patrick's School, Hamilton. Hazel Dynes, Doria Alton, Ross Almas, Beatrice Pettit, Harvey Pettit, Willie Shakespeare, Daisy Bell and others, S.S. No. 4, Nelson, Freeman. Jim Carnegie, Jessie Burnett, Hilda Rose, Mansell Jackson, Public School, Port Perry. Joseph Gesinger, William Brennan, Clare Primeau, Mildred Harrison, Leona Lessard, Mary Feduzzi, Eva O'Reilly and others, St. Ann's School, Hamilton. Mae Davis, Dorothy Anritter, Loren Anritter, Edith Martin, Willa MacIntyre, Lillian Olsen, Margaret Getty, and others, Alexandra School, Moose Jaw. Alan Robin, Ruth Way, Edna Plunkett, King Edward School, Moose Jaw. Dorothy Miller, Marion McIntyre, Russell Wilder, Norman Cook, Olive Matheral, Edith Brown, Albyn Mackintosh, and others, King George School, Moose Jaw. Warren Williams, Jean Motta, Joe Scott, Neil McDonald, Henry Coleman, George Mills, Bertha Williams and others, Empire School, Moose Jaw. Jessie Winder, Andrew Knutton, Helen Burton, Mabel Boyes, Prince Arthur School, Moose Jaw. Eva House, Elfreda McMillan, Marion Donaldson, Minnie Wenzell, Nora Campbell, Louise Cooper, Elma Withrow, and others, Victoria School, Moose

Jaw. Max Rothbort, Harold Hamilton, W. Balmer, James Wilson, Herbert Taylor, Isaac Hayhurst, Perth Avenue School, Toronto. P. Carson, M. MacPhater, I. Rickard, U. Ramsay, Ivy Bunt, Charlie Banks, Minto Fleming, Ryerson Public School, Owen Sound. O. McQuade, L. Smith, Victor Moon, Hazel Manning, Jean McGill, H. Millan, Mary Jackman and others, Dufferin Public School, Owen Sound. J. Massie, Bruce Connell, Tennie Robson, Map Alpin, Ethel Brown, Lillian Morrison, Strathcona School, Owen Sound. Ellen Mahoney, Alfred Buhlman, Genevieve Weiler, Cecilia Beechie, Cletus Weiler, Rose Martin, Olive Weiler, and others, Separate School, Mildmay. Leo Kelly, Mary Freel, V. Gillem, Margery Sauve, Wilfred Kenny, Veronica Sullivan, St. Lawrence School, Hamilton. Helen Murphy, Margaret Roach, Oleida Drouchen, Agnes Glover, J. Roe, M. Kennedy, Thos. Ryan, and others, St. Patrick's School, Hamilton. Margaret Sullivan, Vera Hinchley, Adeline Beaudoin, Edith Melody, Lillian O'Reilly, Annie McDermott, Agnes Nelligan, Cathedral School, Hamilton. Ruth Waite, Hazel Paquette, Ida Dotte, Laura Croulx, Wanda Ladouceur, Avila Beriault, Prudentienne Maisouney, Reine Lalonike, Joseph Bissonnette, Sacred Heart Academy, Vankleek Hill.

C. Lower School.

First Prize—Hanna Dwyer, Loretto Convent, Stratford. Teacher, Sister M. Theodosia.

Second Prize—Pearl Watson, High School, Kincardine. Teacher, Miss Agnes I. Hamilton.

Third Prize—G. Gastle, Collegiate Institute, Hamilton. Teacher, Geo. L. Johnston, B.A.

Honourable Mention for Merit—Gertrude Flanagan, Louise Mulhall, Hilda Chapman, Anna Woods, Lillian O'Brien, Nora Nicholson, Mildred McKeown, Mary Reidy, Loretto Convent, Stratford. Edith Roblin, Continuation School, Cochrane. Edna Fletcher, Marjorie Plummer, High School, Bowmanville. Mary Lyons, F. Thomson, Marie Strachan, J. H. Wagner, N. Woodruff, Florence Conway, Ina Guyatt, and others, Collegiate Institute, Hamilton. Elizabeth Hooey, Grace Rose, Ethelwyn Hutcheson, High School, Port Perry. Tom Beckett, Ruth Brett, Allegra Walker, Annie McDougal, Helen Best, Ethel Wardell, Mina Bryant, Collegiate Institute, Strathroy.

D. Middle School.

First Prize—Bgne Ball, Collegiate Institute, Barrie. Teacher, Miss I. K. Cowan, B.A.

Second Prize—Blake Rutledge, High School, Kincardine. Teacher, Miss Agnes I. Hamilton.

Third Prize—Mary O'Leary, Loretto Convent, Stratford. Teacher, Sister Theodosia.

Honourable Mention for Merit—Anna Halpin, Katherine Kemp, Bertha Carbert, Elizabeth Whaling, Mary Gaunt, Mary Walsh, Eugenia Ducharme, Nellie De Courcy, Loretto Convent, Stratford. Gladys Hicklin, Maye Grant, Muriel Nelson, Collegiate Institute, Barrie. Bessie Begg, R. Arnold, Tena Cole, Violet Hartwick, Doris Fair, High School, Kincardine. Margaret Kennedy, Cathedral School, Hamilton. Janet Sanderson, Ethel Rowe, S. Hutchison, Audrey Miller, Florence Staunton, Collegiate Institute, Peterboro. Arnold Bowslaught, Vivian Lawrence, Helen Gayman, Collegiate Institute, St. Catharines. Kathleen Hord, Evelyn Carr, Amy Newton, Collegiate Institute, Strathroy.

Punishment in the School

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FROM the teacher's standpoint there are elements of truth in each of the three views of punishment—preventive, reformative, retributive—discussed in a former article. Though he will place the stress differently from time to time, his prime object is the reformation of the offender. Punishment administered to a child is of necessity corrective and, hence, as previously stated, all three elements are involved in any act of discipline.

Taking punishment in its widest sense, *i.e.*, discipline, we shall endeavour to look at it from as many angles as it is possible to regard it from the teacher's viewpoint.

Now, discipline is a word of many meanings. We speak of mental discipline or training, and sometimes draw a distinction even between these two terms. We say of a teacher, "He has good discipline", when the meaning obviously is, "He keeps good order; he has good control". Again we say that a man is well disciplined when we mean he is one of good control, mental and moral. All these are involved in school discipline.

WHAT ARE TEACHERS FOR?

If the making of good citizens is the main function of the teachers, and *self-reverence, self-knowledge, self-control* lead to this sovereign power, everything that touches and influences the child life must come within that which we call discipline. Discipline might then be regarded as positive or negative. Under such a division, punishment would be negative, *but a negative that tends towards the positive* and aids in the realization of that positive.

Here, then, we have a sort of contradiction; but it is just the contradiction that underlies our idea of self-government in the state, and our system of training in the school, where we have the apparent paradox, authority and obedience. What secures obedience to authority without recourse to artificial means is positive discipline; the artificial means, varying greatly in both kind and degree, may be said to constitute the negative side of discipline or punishment.

THE IMPULSE TO IMITATE.

To come nearer our subject, let us note what makes for discipline in a school so far as the teacher is concerned. As order is Heaven's first law, so the teacher must possess order as the first law of the school.

His personal influence is in general exerted unconsciously upon his class, and the varied personalities of the pupils unconsciously influence him. There is a subtle action with reaction at work all the time. The teacher is studying the pupil, while the pupil is studying the teacher, and as the child's imitateness is strong, how important it is that what he imitates should be of the best! It is not the *ability to imitate* so marked in an actor, but the *impulse to imitate* so strong in the child, that I refer to when I speak of *imitativeness*. This impulse does not cease with childhood. We find it in adults, and hence the saying "Imitation is the sincerest form of flattery." Men are apt to imitate the gestures and modes of speech of those who excite their admiration or affection. How much more do children in the plastic and suggestive age copy both the manners and the morals of their leaders!

Psychologists lay great stress on the phenomena of imitation and suggestion, particularly in the formative period of the pupil's life. In fact, the whole school and home environment is so arranged as to leave the best impressions on the minds of our boys and girls. Likewise must the teacher so arrange his habits of life and thought as to leave the best impressions.

We may say, then, let the teacher, when rules are in vogue show the way by respecting those rules himself. He should be punctual, careful in his dress, in handling books, in keeping the room clean, and his own desk in order—so that precept may be backed up by example. Not much use in saying, "Johnnie, blacken your boots at noon," if his own are spotted with mud.

Self-control and politeness in the master will engender the same in the class. By this I don't mean that oft-heard motto, "Never get angry before a class", for that is mere piffle. An angry roar often clears the air by putting some moral ozone into it. Teachers are not angels. They know it and the pupils know it. A boy or girl appreciates anger because he or she has experienced the passion. This is why pupils in oral reading do well in the "Quarrel Scene" in Julius Caesar. They know all about it and therefore they know that in its workings there is cause and there is (often to their own discomfort) effect, "Be ye angry, and sin not" would be a good injunction for teachers.

SINCERITY BREEDS RESPECT.

Sincerity, earnestness, a belief in one's work, make for good discipline, and being sincere includes being frank. Let the pupils know that you are one of them in their aspirations, their joys, and their sorrows. Don't hold yourself aloof in a mistaken belief that doing so adds to your dignity. *Standoffishness* is not dignity. The word *dignified* has taken on a variety of meanings from time to time, but to be dignified is not to be a

breathing iceberg with icicles spontaneously forming on the approach of a pupil. Dignity is true worth and a man may possess it and the pupils appreciate and rightly appraise it, when he is out playing football in anything but a so-called dignified position. Being close to your students in athletics is a very effective way of winning their confidence and respect. Frankness on the part of the teacher begets frankness on the part of the pupil. Familiarity may breed contempt, but not when a man or woman has the essential qualities of leadership—candour, honesty of purpose, appreciation of motives, deep knowledge of human nature, and a belief that a pupil should be treated as an end, never as a means; as a person, not as a thing.

TEACHERS NOT PRISON GUARDS.

A full realization of this point would keep teachers from being prison-house guards in their dealings with pupils. I knew (and worked with) a principal whose cardinal doctrine of discipline was "Put the pupils to as much trouble as possible when they transgress the rules"—bad discipline, if not vicious, in both application and results. That same principal at the close of his first year, told the assembled students a story of a boy who returned from a boarding-school, and was asked by his father how he liked the principal. The boy replied, "Mr. —— is a beast, but a just beast". The question that at once arose in my mind was: "But why a beast at all?" The only answer is that this man, who, by the way, told the story in extenuation of the harshness of his own rule, was trained in a pedagogy which believed that punishment is for the good of the teacher though inflicted on the child! Such a man as he was never one who

"Hails you 'Tom' or 'Jack',
And shows by thumping on your back
How he esteems your merit".

MARK TWAIN'S UNCOMMON SENSE.

Mark Twain said, "'Tis noble to be good but nobler to teach others to be good—and easier". But it is equally noble and easy to be natural in disciplining in school. Let us remember when each of us was a boy in school, "when in school days, you and I were kids". That along with a sense of humour, the most gracious gift, would save many a teacher and many a pupil from bitter misunderstanding, the effects of which may last a life-time. If ever there is a new commandment formulated for a teacher's guidance, it should read "Remember thyself in the days of thy youth."

Intellectual activity on the teacher's part will show his students that he still has a desire for further self-culture. One's classes are always delighted to learn that their teacher has taken another degree, perhaps

because they think that he will thus be better able to train them, but maybe because there is a greater feeling of comradeship, of being in the same boat, as it were.

Be that as it may, it pays a teacher to be always improving his own scholarship. "As is the teacher so is the school", is true, but none the less true is the maxim "As is the man so is the teacher".

I have already stated that a teacher should not dwell in another atmosphere remote from the pupils, like the gods of the Epicurean cited in Tennyson's *Lotos Eaters* who "smiled in secret, careless of mankind", but that he should at times think their thoughts, talk their speech, be one of them. Frankness and naturalness are essentials. Yet with all one's frankness one must retain a certain inscrutability of reserve, in colloquial phrase or school-boy parlance, "have something up one's sleeve". This gives a suggestion of power. In the present great war it is claimed that it is the reserves that win the battles. Make your own application. Robert Burns himself appreciated the value of some reserve when he said in his "Epistle to a Young Friend": "But still keep something to yourself, ye scarcely tell to onie".

GOVERNMENT EXPEDIENTS.

Apart from the educator's position as moral authority, we could discuss the expedients of government in the school-room. But merely citing some of these must needs suffice. They include:

(a) Constant employment; barrels of work is a great panacea for bad conduct;

(b) Close supervision. A watchful eye is a better check than a talkative mouth. This applies to hall and corridor discipline, as well as to that of the classroom. The one affects the other. The outer current re-acts upon the inner.

(c) Commands. These should be few, given with decision, but well considered before given, and positive rather than negative. This applies also to so-called "rules of the school". Everyone hates an excess of formalism—red tape.

(d) Punishment in the narrow sense. All that was said of this as applied to the family holds here for does not the teacher according to school law stand *in loco parentis* (in the place of the parent). Punishment includes everything from reproof down through positions of disgrace, loss of marks, detention with or without tasks (writing lines etc.), fines—to corporal punishment. Of the efficacy of each kind much may be said for and against. No two teachers can use the same means equally well. Each teacher has his own method that hinges upon his own character. One thing is certain: *The more force of character he has the fewer of these expedients he needs.*

Some of them I should feel like condemning entirely, so far as I am concerned; but I should never follow the "moral suasionists" and abolish corporal punishment. Why? You ask. Because it is the most natural of all; appreciated alike by pupil and teacher, and there are those whose fountain of honour can be tapped only through the cuticle.

TAPPING THE CUTICLE.

Here it should be said that corporal punishment is the last resort. No man ever punished a pupil who joyed in the act before and after. But many unpleasant experiences we must endure for the good of the race. On the whole, teachers in every way should try to make school a pleasant place *to go to* NOT *to go from*; especially so, since for good or for ill boys and girls get all they are ever going to get in certain branches between the ages of eight and eighteen. This is not generally realized.

In the past, teachers were known who marred rather than made lives. If there is one of that species still alive, the species that, though morally and mentally fitted to teach, yet lacks the "milk of human kindness" to inspire pupils with a love for work and truth, let that man, I say, fervently pray (if teach he must) with the hero of Tennyson's Maud.

"And ah for a man to arise in me,
That the man I am may cease to be!"

Monograms

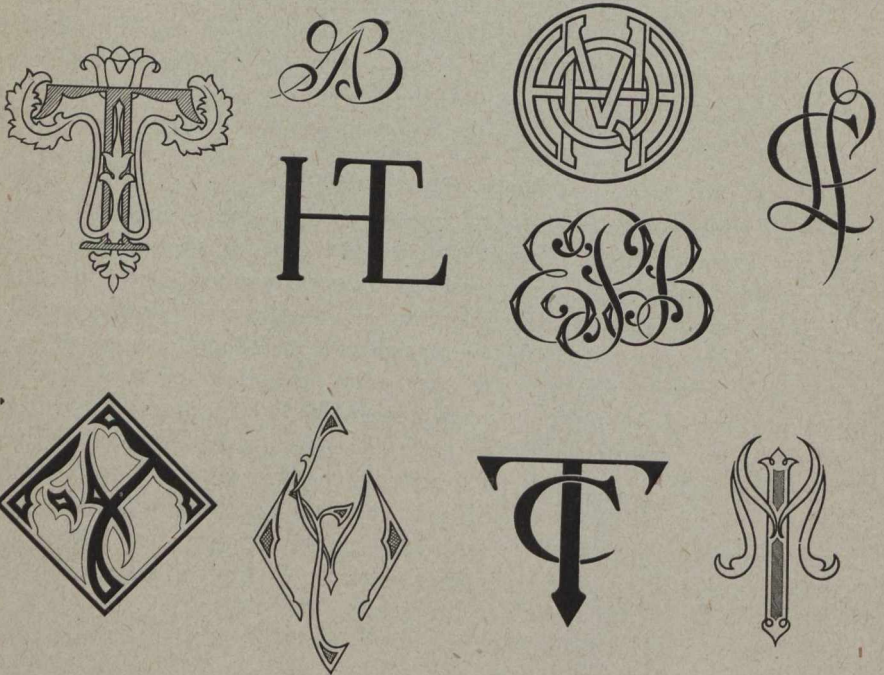
H. E. BICKNELL, A.O.C.A.,
Parkdale Collegiate Institute, Toronto

THIS subject is one that never fails to arouse the interest of a drawing class. However, the best results will be obtained only when the pupils have a knowledge of its limitations and possibilities.

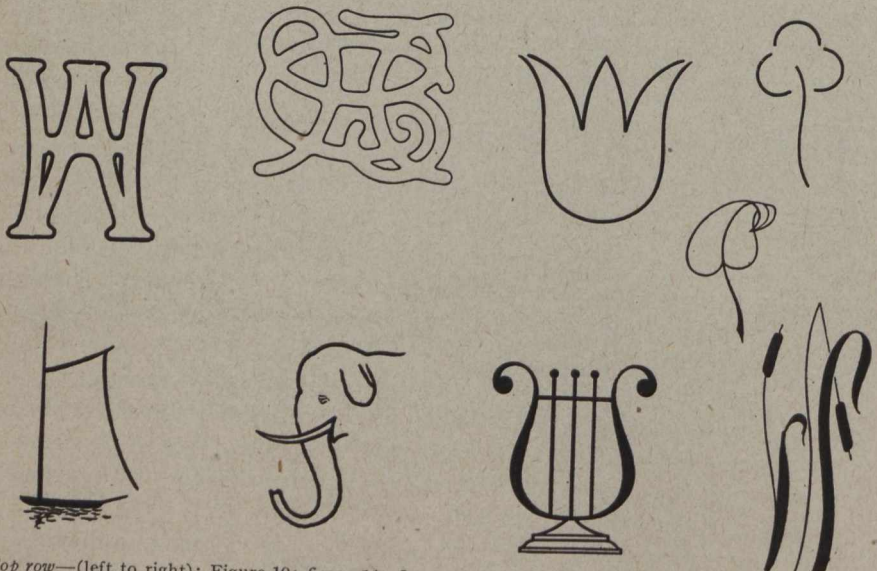
Monogram designing involves a knowledge of lettering and of the principles of designing; hence the limitations of the subject. A lesson in monogram designing can be taken only after lettering and designing have been studied.

In this article five common methods of treating a monogram are explained and illustrated. The best method to use for the combination of any particular letters may suggest itself from the shape of the letters. For example, the monogram illustrated in figure 6 suggested a triangle on account of the shape of the letter "T".

Most groups of letters may be combined in several ways to form good monograms.



Top Row—(left to right): Decorative initial; figure 1; figure 2; figure 9. *Middle*—Figure 2; figure 7.
Lower row—Figure 4; figure 5; figure 6; figure 8.



Top row—(left to right): Figure 10; figure 11; figure 12 (U.W.); figure 13 (C.B.). *Middle*—Figure 14 (C.S.S.). *Lower row*—Figure 15 (K.L.); figure 16 (J.N.U.), figure 17 (U.H.L.); figure 18(H. A.S.).

1. ONE STROKE COMMON.

Perhaps the simplest method of treating a monogram is to make one stroke do for a part of two letters. There are only certain letters which may be treated in this way. The stroke must be of the same shape in both letters before this method may be used. See figures 1 and 2.

2. FILLING A GIVEN SHAPE.

A very common and very effective way of making monograms is to fill a given shape. Figures 3, 4, 5, and 6 show a circle, a square, a diamond, and a triangle treated in this way. In this method the shape to be used is drawn first, and the letters are "worked" into this shape so that they themselves may suggest it.

3. INTERLACING LETTERS.

This method will require very little explanation. A word of caution, however, might not be out of place. Parts of letters should never *just touch* each other. They should either intersect or be kept apart. Figures 7, 8, and 9 show three monograms developed in this way.

4. THE LABYRINTH.

In figures 10 and 11 letters are combined to form a labyrinth—a very effective method of designing monograms. (The monogram shown in figure 11 is not very well balanced. It is too heavy on the right side. Compare the balance in the other examples.)

5. IMITATIVE MONOGRAMS.

We are all more or less familiar with the butterfly which Whistler evolved from his monogram and used to sign his pictures. (See picture entitled *Portrait of Thomas Carlyle* by Whistler). We have here a rather interesting interpretation of the letter "W". Figures 12 to 18 show several monograms which have been worked up to suggest the various objects represented.



Leading Manitoba Educationists III.



ROBERT W. FLETCHER, B.A.

FOR the past fifteen years Manitoba has been fortunate in having in Mr. Robert Fletcher, B.A., Deputy Minister of Education, an official who combines rare executive ability, great tact, and patience with a responsive appreciation of public sentiment. Though ministries may change from time to time, the Department as such has never got out of touch with public opinion, but has pressed forward into new fields of educational experiment and accomplishment. A large measure of the credit is due to the skill and knowledge of Mr.

Fletcher, in whom the public has learned to trust.

Mr. Fletcher was born in Norfolk County, Ontario, in 1873, and entered Trinity University in 1891, winning the general matriculation scholarship of \$200 at the senior matriculation examination. He attended Trinity until 1893 when he came West and attended the fall session of the Provincial Normal School at Winnipeg that year. He then taught in the Elkhorn Intermediate School, in Kenora, and from 1897 to 1899 lectured on mathematics in St. John's College. In the meanwhile he was completing his arts course and graduated from the University of Manitoba in 1896. After spending some time in commercial life he re-entered the teaching profession and taught in the Portage la Prairie Collegiate from 1901 to 1903. In August, 1903, he succeeded Mr. W. P. Argue as Chief Clerk at the Department of Education, and has had charge of this work since that time.

At the time of Mr. Fletcher's appointment, the schools were administered as a sub-department under the Attorney-General. The work, however, grew to such proportions and became so vital that in 1906 the Department of Education was created as a distinct branch of the Administration with Hon. G. R. Coldwell, K.C., as Minister of Education and Mr. Fletcher as Deputy Minister.

Mr. Fletcher has grown up with the work. A few figures will show what progress has been made since he came into office. In 1903 there

were nine inspectors, 1,290 school districts, 1,584 school departments, 47 intermediate schools and three collegiates. These have increased to 25 inspectors (apart from Winnipeg and Brandon), 1,896 school districts, 3,043 school departments, nine collegiates, four collegiate departments, 23 high schools and 72 intermediate schools. The school population has increased from 66,603 to 130,275, and the enrolment from 57,409 to 106,588. At the same time the expenditure has increased from \$1,509,276 to \$4,136,495.65.

Mr. Fletcher has always believed in keeping the Department in close touch with the people and likes to attend Trustees' and Teachers' Conventions, school openings, etc., in order to present the newer phases of educational problems and practice. Whilst in the nature of things the Department is more or less removed from the actual public, he keeps in touch with the schools at these meetings and through conferences and correspondence. Mr. Fletcher's letters, while possessing the formal dignity one expects from departmental communications, take on a personal touch that begets enthusiasm and confidence.

Mr. Fletcher from the first has been indefatigable in his work, and school officials and teachers always find in him a wise and appreciative friend.

E. K. MARSHALL.

Public School Music in Ontario

A. W. EASTON

Renfrew; late teacher of music in Glasgow Public Schools

REFERRING to Mr. Bottomley's letter in the February issue regarding "Public School Music in Ontario". I beg to deal briefly with his fourth question: Is there to-day a really sufficient reason why we should have two music languages instead of one"? In this country where music is not printed in the tonic-sol-fah, to teach it, as an independent notation, is perhaps inadvisable, but to dispense with it, vocally, as a means of teaching the "staff" notation, would retard progress in the musical education of the young and make for inefficient readers. It is the adaptability of the "movable doh" to accurately read and grasp the "staff" and the stripping from it of many technical difficulties that has heretofore placed the school children of the Old Country away ahead of those in this country and the States.

Music is music, in whatever way it may be written, whether in the "staff", "chévé" or "tonic-sol-fah", and a teacher grounded in the

latter has no new language to learn in order to teach the old notation, but a new and easier set of characters for the language with which he is already familiar.

I am of opinion that a teacher of vocal music in schools should possess *at least* an elementary certificate as a tonic sol-fa-ist before engaged to teach the staff. Sol-fah is the "*short hand of music*" and to hear an inviting song is to take it down in the *doh, ray, me's* and transpose into the staff in any key. In short, it can be successfully argued that it is indispensable in gaining an easier, quicker, and more accurate knowledge of the staff notation, removing as it does three fourths of the difficulties encountered by pupils who are taught the staff independently.

Recent Educational Books

[The books listed here have been received from the publishers during the past month. Reviews of most of them will appear in forthcoming issues.]

La Pierre de Touche, by V. E. Kastner. 110 pages. Price 25 cents. Oxford University Press, Toronto. This is an attractive text, of convenient size, flexible for carrying in the pocket, with striking cover, clear type, good paper, and serviceable binding. There is an introduction, a summary of the plot in English, full explanatory notes (325 of them), and a specially adapted vocabulary. The editor's work is accurate and scholarly and at the same time admirably meets the needs of the matriculation student. This edition has been authorized by the firm of M. Calman Levy, the proprietors of the copyright.

School and Home Gardening, by Kary C. Davis. 353 pages. Price, \$1.28 net. The J. B. Lippincott Co., Philadelphia, Pa.

First Year Mathematics, by E. R. Breslich. 345 pages. Price, \$1.00 net. The University of Chicago Press, Chicago, Ill.

Geometric Exercises for Algebraic Solution, by Geo. William Myers. 71 pages. The University of Chicago Press, Chicago, Ill.

Garden Steps, by Earnest Cobb. 226 pages. Silver, Burdett & Co., Boston, Mass.

The Cadet Manual, by Major E. Z. Steever & Major J. L. Frink. 317 pages. Price, \$1.50 net. The J. B. Lippincott Co., Philadelphia, Pa.

Le Premier Livre, by Albert A. Méras & B. Méras. 200 pages. American Book Co., New York, N.Y.

An Introduction to Science, by Bertha M. Clark. 494 pages. American Book Co., New York, N.Y.

Community Arithmetic, by Brenelle Hunt. 277 pages. American Book Co., New York, N.Y.

Laboratory Manual for Introduction to Science, by Bertha M. Clark. 203 pages. American Book Co., New York, N.Y.

The Adventures of Oliver Twist, by Charles Dickens. 472 pages. Price 30 cents. The Macmillan Co., Toronto. Edited with introduction and notes by F. W. Pine. One of *Macmillan's Pocket Classics*.

The Soul of Democracy, by Edward Howard Griggs. 158 pages. Price \$1.25. The Macmillan Co., Toronto.

Elementary Spanish-American Reader, by F. B. Luquiens. 224 pages. Price 90 cents. The Macmillan Co., Toronto.

Leyendas Historicas Mexicanas, by James Bardin. 181 pages. Price 80 cents. The Macmillan Co., Toronto.

New First Spanish Book, by J. H. Worman. 127 pages. American Book Co., New York, N.Y.

An Elementary Study of Chemistry, by Wm. McPherson & Wm. E. Henderson. 576 pages. Ginn & Co., Boston, Mass.

Hints for the Library

Applied Chemistry. A laboratory manual for elementary students, by Emery, Miller, and Boynton, of Harrison Technical, College of Education, and Waller High school, Chicago, respectively. Pages v+212. Cloth. 1917. 27×20×2.5 centimetres. Lyons and Carnahan, Chicago. Here is a novel idea, a combined manual and note book, to reduce the mechanical work for student and teacher. All necessary drawings are included. Blank spaces for answers to questions (which are numerous and not involved) are scattered through each experiment. General inorganic chemistry is covered by forty-seven experiments dealing with thirty-two elements and some of their more important compounds: fifty-three are devoted to foods; fifteen more to advanced inorganic chemistry. Forty-four pages are devoted to Analysis. A number of valuable tables on such topics as solubility, hardness, specific gravity, etc., conclude the volume. This book endeavours to solve a regular bugbear for science teachers. Could pupils be made to live up to it, not down to it?

H. A. G.

The Trail of Tecumseh, by Paul Tomlinson. Price \$1.35 net. D. Appleton & Co., New York. This book belongs to the *Great Indian Chiefs Series*. It is an intensely interesting narrative of Indian warfare drawn from accurate historic data, and dealing with the period immediately preceding the War of 1812. The thrilling adventures of the four frontiersmen are exceedingly well told in clear, simple language easily within the comprehension of pupils of Third and Fourth book classes. The portrayal of Indian wiles and cunning, matched against the white man's brains and training, reveals the fact that, "it takes a pretty good Indian to get the best of Pierre". Boys will appreciate this fascinating volume and others of the same series, and none will be more popular in the school library.

F. J. H.

The Ancient World, by Willis Mason West, formerly Professor of History, University of Minnesota. Revised edition, 667 pages. Allyn and Bacon, Boston. This is one of the most attractive and readable books on this subject which has come under the notice of the present reviewer in recent years. The material is chosen with excellent judgment; the style is clear and the whole book should prove useful to teachers and interesting even to young pupils. The period covered is from the earliest times down to 800 A.D. It will be seen, therefore, that a considerable portion deals with the Upper School course in mediaeval history. Perhaps the most admirable feature of the book is the illustrations of which it contains no fewer than 181; there are also 46 maps and plans. This book is well worth a place in any school library.

J. O. C.

Selections from Roman Historians, edited with notes by Lindley Richard Dean, Ph.D. Assistant Professor of Latin in Dartmouth College, and Roy Joseph Deferrari, Ph.D., Instructor in Classics in Princeton University. 260 pages. Allyn & Bacon, Boston. A collection of extracts from original sources so arranged as to preserve a connecting thread from the episode of Horatius at the Bridge to Julius Caesar. This book would be valuable as a source for passages for sight translation with an honour Latin class.

J. O. C.

A History of Rome, by Philip Van Ness Meyers, formerly Professor of History, University of Cincinnati, second revised edition, 242 pages. Ginn & Co., Boston and New York. Price \$1.12. An excellent little text covering the history of the Roman republic, the Empire (Western and Eastern), the work of Charlemagne, the rise of Islam and the Romano-Teutonic periods. This is all handled so briefly yet adequately that the book should prove valuable to any teacher of ancient or mediaeval history. It is well illustrated and most readable.

J. O. C.

The Earliest Voyages Round the World, 1519-1617. (Cambridge Travel Books) edited by P. F. Alexander, M.A., Hertford College, Oxford. Price 3 shillings. Cambridge University Press. J. M. Dent & Sons, Toronto. The aim of this book, like the aim of the series of which this is but one volume, is "to illustrate the history of geographical discovery by means of select voyages and travels—usually written by the discoverer himself or by an eye witness". The book could very suitably be used as a source book for history or as supplementary reading for the history period. There is a useful table of "Important Dates in the History of Discovery". The book is a handy volume of 200 pages. The stories are well told and nearly two dozen maps and illustrations add to the volume's attractiveness. Some helpful notes explanatory of places and names to mentioned in the stories appear at the back of the book. This is a good book to add to the historical or geographical shelf of the school library.

H. B. K.

Classroom Humour

The Right Hon. W. F. D. Massey, Premier of New Zealand, is a big, bulky man, with a reputation for pugnacity alike in speech and deed, qualities which lend point to the following story:

His hobby as a statesman is education, and one day, when inspecting a school, he announced to the pupils that he was about to test their intelligence and powers of observation in a novel way.

"I am going," he said, "to perform certain actions, and you must guess what proverb they represent. The boy or girl who succeeds first will receive a shilling."

That did it. Instantly every eye was fixed on him. First of all Mr. Massey lay down on the floor. Then one man came forward and tried in vain to lift him. Two others came to his aid, and between them they raised him without any great difficulty.

The actions were meant to represent the motto, "Union is strength." When they had finished the Premier stepped forward and asked if any child had solved the puzzle.

At once a grubby hand shot up and an eager voice squeaked, "Let sleeping dogs lie."

The grammar school mind of Washington Heights, New York City, is as resourceful as it is brilliant. Yesterday a fond mother called at the superintendent's office of Public School No. 186 holding by the hand her gala-clad youngster. He was eight years old and beamed his innocence over a wide Columbus collar and a gorgeous red Windsor tie. His mother looked from him to the superintendent in righteous indignation as she sought to know why the boy, having had excellent marks in all subjects for many months, had not been promoted.

"Why, my boy has had 'D' and 'C' in almost every study each month this year. If he is not promoted, who can be?" asked the astounded mater. "Is there some prejudice against my son in this school? If there is I shall go to the last resort to have him receive that which is due."

When opportunity offered the superintendent explained that there was no conspiracy to submerge Willie despite his talents. He made it clear that the best marks given at the school are "A" and "B" and the lowest "D" and "C".

The fond mother nearly swooned. "Why," she exclaimed, "he told me that 'D' meant dandy, 'C' meant careful, 'B' stood for bad and 'A' meant awful!"

When last seen Willie was following her arm up Amsterdam avenue, with every indication that he was to have an "A" afternoon.—*N. Y. Herald.*

Worn out by a long series of appalling French exercises, a hapless High School mistress declared her intention of writing to Florence's mother.

Florence looked her teacher in the face. "Ma will be awful angry."

"I am afraid she will, but it is my duty to write to her, Florence."

"I don't know," said Florence doubtfully. "You see, mother always does my French for me."

The teacher in the village school was enlarging on the benefits to be derived from walking. One lad seemed particularly restive. The teacher inquired sarcastically: "Now, then, Willie, have you something to tell the class?"

"Yes, sir," replied Willie. "My father says that our washerwoman is the greatest walker in the world."

"How is that?"

"Because she walks from pole to pole."

Notes and News

Miss M. Alberta Watson, formerly of Strathroy, is now on the staff of Alvinston Continuation School.

Miss Nessie N. Archer is teaching in Wardswville High School.

Ontario Departmental Examinations, June, 1918

Middle and Upper Schools

TIME TABLE

Before candidates at any examination begin writing on their first paper, the Presiding Officer (at 8.45-9.00 a.m. or 1.15-1.30 p.m.) shall read and explain to them the "Instructions to Candidates."—*Instructions No. 5.*

Date	Hour of Examination	Middle School Entrance into Normal Schools	Upper School Entrance into Faculties of Education	Pass Matriculation	Honor & Scholarship Matriculation (See Note 4 below)
20th June	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	..... Mineralogy.....	.....	Problems.....
21st June	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	Zoology..... Botany.....	.....	Zoology..... Botany.....
24th June	a.m. 9.00-11.30 p.m. 1.30-4.00	History (Ancient). Chemistry.....	..... Chemistry.....	History (Ancient). Chemistry.....	..... Chemistry.....
25th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Algebra..... English Comp.....	Algebra..... Eng. Comp. and Rhetoric.....	Algebra..... English Comp.....	Algebra..... English Comp.....
26th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Physics..... Hist. (Br. & Can.)	Physics..... Hist. (2nd Course)	Physics..... History (Br. & Ca.)	Physics..... History (Mod.)....
27th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Geometry..... English Literature	Geometry..... English Literature.	Geometry..... English Literature.	Geometry..... English Literature..
28th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Art (1st paper Or Agri..... Art (2nd paper) or Agric.....	Greek Authors.... Greek Comp.....	Greek Authors... Greek Accid., etc..	Greek Authors.... Greek Comp.....
2nd July	a.m. 9.00-11.30 p.m. 1.30-4.00	Latin Authors.... Latin Comp.....	Latin Auth. or Spec. English Lit..... Lat. Comp. or Spec. History of Lit...	Lat. Auth. Vir., etc. Lat. Comp. Caesar.	Latin Authors..... Latin Comp.....
3rd July	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	French Authors... French Comp.....	French Authors... French Comp.....	French Authors... French Comp.....
4th July	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	Trigonometry..... History (1st Course)	.....	Trigonometry..... Hist (Mediaeval)..
5th July	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	German Authors... German Comp.....	German Authors... German Comp.....	German Authors... German Comp.....

NOTES.

1. At all examinations in Mathematics candidates should provide themselves with a ruler (showing millimetres and sixteenths of an inch), a pair of compasses and a protractor.
2. For the examination in Art candidates should come supplied with pencils, rulers, compasses, erasers, pens, water-colours, brushes, India ink, and tracing paper. They will also need water-pans and a convenient supply of water.
3. At the examination in Botany and Zoology, Honour Matriculants and Scholarship candidates will have practical work in these subjects.
4. Candidates for admission to a Faculty of Education who are also candidates for scholarships at the Honour Matriculation examination may substitute for one or more of the examination papers in the following subjects of the Faculty of Education examination the corresponding examination papers in the subject or subjects of the Scholarship examination:
Mathematics (Algebra, Geometry, and Trigonometry), English (Literature, and Composition and Rhetoric), History (Mediaeval, and Modern), Physics, Chemistry, Biology (Zoology and Botany), Latin, Greek, French, and German.

Continued on page 702

Vast Issues Depend Upon the Welfare of Our Boys

RUSHING "whizbangs" and screaming "coal-boxes" are no respecters of persons. You are hit! But despite shock and pain you still can face the long weary trudge back to dressing station. Weary, overwrought and depressed you are prey to wild imaginings of that other coming ordeal with the surgeon. There are other "walking wounded", too! You must wait, wait, wait. And then—

Up comes a cheery Y.M.C.A. man. Close beside the dressing station the good generous folks at home have enabled him to set up a canteen. He hands you biscuits, and chocolate or coffee.

"In thousands of cases," writes an officer, "it was that first hot cup of coffee that dragged the man back to life and sanity!"

The Y.M.C.A. is **everywhere**. You first met the helpful manly Y.M.C.A. worker in camp, then on train and boat, at camp in England and in France, close to the firing line. Often he risks his life to reach you in the trenches. He has won the warmest praise from military authorities, statesmen — the King!

Will you help? This vast organization of helpfulness needs at least \$2,250,000 from Canada. For your boys' sake be **GENEROUS!** If no committee has been organized in your community to raise funds, write to the National Director at address below for information about how to organize.



Cheer Up and Thank God for the Y.M.C.A.

Y.M.C.A.

Red Triangle Fund

\$2,250,000, May 7, 8, 9

Canada-Wide Appeal

"Earn and Give" Campaign

Six thousand Canadian older boys are invited to earn and give at least Ten Dollars (\$10) to the Red Triangle Fund. That means \$60,000 in all! Splendid! Five thousand dollars will be used for boys' work in India and China; another \$5,000 for the National Boys' Work of Canada, and \$50,000 to help big brothers in khaki. Ask your local Y.M.C.A. representative for information and pledge card. When you have subscribed one or more units of Ten Dollars, you will receive a beautifully engraved certificate.

National Council, Young Men's Christian Association

Headquarters: 120 Bay Street, Toronto

John W. Ross, (Montreal)

National Chairman of
Red Triangle Fund Campaign.

G. A. Warburton, (Toronto)

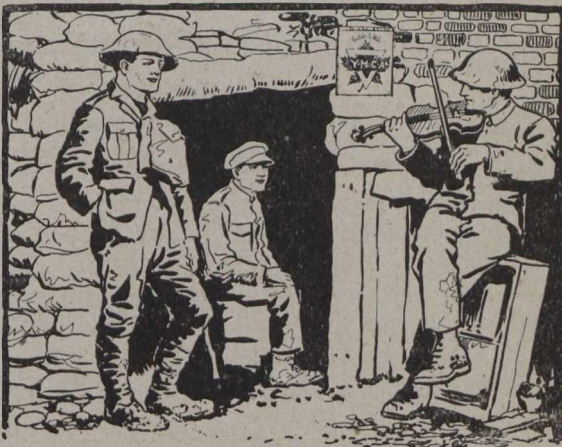
National Director of
Red Triangle Fund Campaign

They are Fighting—Dying for YOU What are You Doing for THEM?

IF only you could be in France, close to your boy, think of the comforts you could send him into the lines, how you could hearten him for the supreme ordeal of battle.

But no—thousands of miles separate you! Not for you are his furloughs, no visits to camps for you, no privilege of visiting your boy in hospital, if need be. Few and far between are the comforts you can send across the wide seas!

Would that you had a friend over there to perform these offices for you! Thank God, you have that friend. The Y.M.C.A. is ever at your boy's side—in camps, trains, boats, in the streets of the big city, in hospital, behind the firing lines—and often right into the trenches,—everywhere!



A Y.M.C.A. Dugout at the Front.

your boys' welfare? At least \$2,250,000 is needed. For the sake of your precious boys, be Generous!

Y.M.C.A.

Red Triangle Fund

\$2,250,000, May 7, 8, 9

Canada-Wide Appeal

"Right on the heels of the dashing Canadian soldiers at Vimy Ridge the Y.M.C.A. men were serving out biscuits and chocolate to the tired men", said the dispatches. The General was enthusiastic and recommended one of the Y.M.C.A. men for the Military Cross.

Think of the tremendous cost of building and maintaining hundreds of huts with all the thousand and one comforts that must be provided. What will you give to show that you care for

WAR WORK SUMMARY.

There are:

—96 branches of Canadian Y.M.C.A. in France.

—79 branches in England.

—Dozens of Y.M.C.A. dug-outs in forward trenches under fire.

—Over 100 pianos in England and France; also 300 gramophones and 27 moving picture machines.

—Y.M.C.A. helps boys in hospitals.

—More than 60,000 cups of hot tea and coffee distributed, daily in France—free. Esti-

mated cost for 8 months, \$48,000.

—150,000 magazines distributed free every month. (Estimated cost \$15,000.)

—\$125,000 used in 1917 to build huts in France.

—Y.M.C.A. sells many needful things to soldiers for their convenience. Profits, if any, all spent for benefit of soldiers.

—Service to boys in Camp hospitals.

—Out of Red Triangle Fund, \$75,000 to be contributed to the War Work of the Y.W.C.A.

National Council, Young Men's Christian Association

Headquarters: 120 Bay Street, Toronto

John W. Ross, (Montreal)

National Chairman of
Red Triangle Fund Campaign.

G. A. Warburton, (Toronto)

National Director of
Red Triangle Fund Campaign.

Dr. A. M. Scott, Superintendent of Schools, Calgary, Alberta, wishes to secure a copy of the "Addresses and Proceedings of the Dominion Educational Association Meeting" held in Toronto, 1895. Any reader of THE SCHOOL who can furnish this, or information regarding it, will confer a favour by communicating with the Superintendent at Calgary.

Miss Christine McLean, a recent graduate of Calgary Normal School, is teaching at Shepard, Alberta.

Ontario Departmental Examinations, June, 1918

Lower School

TIME TABLE

Before candidates at any examination begin writing on their first paper the Presiding Officer (at 8.45-9.00 a.m. or 1.15-1.30 p.m.) shall read and explain to them the "Instructions to Candidates."—*Instructions No. 5.*

Date	Hour of Examination	Lower School For Entrance into Normal Schools and Faculties of Education.	Model Entrance and Senior Public School Graduation	Senior High School Entrance	English-French Model Entrance
14th June	a.m. 9.00-11.30 p.m. 1.30-4.00	English Grammar Br. & Can. Hist.	English Grammar Br. & Can. Hist.	English Grammar Br. & Can. Hist.	Agriculture and Horticulture.....
17th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Arithmetic..... Geography.....	Arithmetic..... Geography.....	Arithmetic..... Geography.....	Man Training or Household Sc..... Book-keeping and Writing.....
18th June	a.m. 9.00-11.30 p.m. 1.20-3.50 p.m. 4.00-4.40	Elementary Science Art..... Spelling.....	Elementary Sc.... Art..... Spelling.....	Elementary Sc.... Art..... Spelling.....	Elementary Sc..... Canadian Hist.....
19th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Book-keeping and Writing..... Manual Train., or Household Sc....	Book-keeping and Writing..... Manual Train., or Household Sc....	Book-keeping and Writing..... Manual Train., or Household Sc....	Art..... English Comp.....
20th June	a.m. 9.00-11.30 p.m. 1.30-4.00	Agric. & Hort.....	Agric. & Hort..... English Comp....	Agric. & Hort..... English Comp....	Arithmetic..... English Literature..
21st June	a.m. 9.00-11.30 a.m. 11.40-12.30 p.m. 1.30-4.00	.....	Algebra & Geom. English Literature.	Algebra & Geom... English Literature.	English Grammar.. Spelling..... Geography.....
24th June	a.m. 9.00-11.30 p.m. 1.30-4.00	.....	Shorthand & Type- writing..... (Graduation only)	Latin..... French or German	French Grammar.. French Comp.....

NOTES.

1. For the examinations in Geometry and Manual Training candidates should provide themselves with a ruler (showing millimetres and sixteenths of an inch), a pair of compasses and a protractor. For Manual Training a drawing board, tee-square and two set squares will also be required.

2. For the examination in Art candidates should come supplied with pencils, rulers, compasses, erasers, pens, water-colours, brushes, India ink, and tracing paper. They will also need water-pans and a convenient supply of water.

3. For the examination in Book-keeping and Writing candidates should come supplied with rulers.

4. The examination in Reading may be taken between 11.30 and 12 a.m., or between 4 and 5 p.m., or at such other times as will cause least inconvenience to the candidates.

H. E. Thompson, formerly of Springfield, is Principal of the Continuation School at Bridgeburg.

E. W. J. Bowes of London has enlisted with the R.F.C.

Acting on the Regulations of the Ontario Department of Education, the Oxford Teachers' Institute has established branch libraries for the

Continued on page 704

"STAND STEADFAST"

ONTARIO

ONTARIO'S COAT OF ARMS.

Our Provincial Motto—"Ut inceptis fidelis sic permanet," freely translated means, "As we commenced, so we remain faithful," or "Faithful to the end." In other words it means, "Let us all STAND STEADFAST this year and the years to come."

ONTARIO MUST KEEP HER PLEDGE!

"The Allies' larder is dangerously empty but we are 'carrying on' in the resolute belief that we can rely on the people of North America to prevent our Food Supplies from becoming so diminished as to imperil the issue for which we are fighting."—Lord Rhondda.

What Teachers Can Do To Help

- Give Leadership in National Service.
- Stir your pupils to answer the call of Britain and our Allies for food.
- Have a School Fair or Garden Exhibit in September or October.
- Teach lessons on gardening or arrange for talks at the school by practical gardeners.
- Don't let pupils grow an over-abundance of vegetables that cannot be used locally or stored for Winter use.
- Write for a quantity and distribute bulletins on Vegetable Growing from the Department of Agriculture at Toronto and Ottawa in the schools and discuss them with the pupils.
- Arrange for instructions on canning, drying and preserving so that there will not be any undue waste.
- Carry out a food-production School Garden in the school grounds or nearby, or have every pupil cultivate a Home Garden.
- Visit the children's gardens once at least before holidays and arrange for some supervision through the holidays.
- Discourage pupils from idle holidaying. Lead them to realize that in these anxious times Canadians must not be slackers.
- Arouse your community to action by lessons taught to the pupils, by distributing literature, by arranging for public meetings in the schools.
- Have gardens of your own or enlist for the holidays with the Ontario Labour Branch for fruit-picking and other farm service.
- Assist groups of pupils to undertake community gardening schemes on vacant lands for potato and bean production.
- Impress every boy and girl who is old enough to handle a hoe with the seriousness of the food situation and the obligation there is on everyone to grow part of his or her own food needs.
- Encourage older boys to enlist for farm service as Soldiers of the Soil and younger boys to give their help in hoeing turnips, pulling flax, etc.
- Co-operate with the local Food Production Committee, Horticultural Society, or Organization of Resources Committee in organizing the boy and girl forces of the community for gardening or farm help schemes.

Issued by Organization of Resources Committee, in co-operation with the Canada Food Board.

use of its members at the following places: Princeton, Drumbo, Platts-ville, Tavistock, Harrington, Embro, Thamesford, Kintore, Beachville, Tillsonburg, Brownsville, Otterville, Burgessville, Norwich, Ingersoll and Woodstock. Mr. W. Munro, Woodstock, Secretary-Treasurer of the Institute, is in charge of library arrangements.

A LARGE PUBLISHING HOUSE has a good position vacant for a teacher possessing at least matriculation standing with knowledge of typewriting (not stenography), who wishes to leave teaching for business. State experience.

Address, Department P, The School, 371 Bloor Street West, Toronto.

Readers of THE SCHOOL will be interested in the Y.M.C.A. advertising which appears on pages 700 and 701 of this issue. Too much can scarcely be said of the good work that is being done for Canadian soldiers by the Y.M.C.A.; and, of course, anything that makes for the welfare and the comfort of the men overseas has the hearty approval and the unreserved co-operation of the members of the teaching profession in this Dominion. The advertisements already referred to give the particulars; ways and means of assisting in this most deserving campaign will readily suggest themselves.

SIX ASSORTED COPIES of high grade sheet music and general catalogue of vocal, instrumental music and popular songs, all for 25 cents postpaid. Home & Office Supply Co., Box 114, Montreal.

It is hoped that the advertisement on page 703 of this issue will be carefully and thoughtfully read. The present is a time when crisis succeeds crisis, and there is no dis-

guising the fact that the food crisis is alarming beyond expression. It is absolutely essential that everyone do everything possible to ward off the danger of world famine.

Alberta.

In the matter of salary in an ungraded rural school in Alberta a record was probably made by Miss Grace Guthrie who received \$1,200 a year for three years in succession in the Success S.D. No. 2034, a purely rural agricultural district.

Wm. Gray, B.A., of the Lethbridge High School staff has accepted a position on the staff of the Collegiate Institute, Calgary, to succeed G. S. Lord, B.A., recently appointed Inspector.

W. R. Baker, B.A, Principal of the Medicine Hat High School has resigned his position to join the colours in April.

There were 11,146 pupils enrolled in the Edmonton Public Schools in 1917. Eight new rooms were opened the first of February to accommodate the increase in the school population which for January was 552 in excess of that of the corresponding month in 1917.

Continued on page 706

Queen's University

QUEEN'S SUMMER SCHOOL

KINGSTON

ONTARIO

The Ninth Session opens July 10, and closes
August 21, 1918.

Classes will be offered in English, French, Latin, English History, European History, Mental and Moral Philosophy, Mathematics, Physics, Geology and Mineralogy, Chemistry, Animal Biology, and Botany.

The work given is of value for a degree in Arts, for High School Assistants' and Specialist's Certificates, for First Class Public School Certificate, for Public School Inspector's Certificate, and for all persons wishing to broaden their knowledge, improve their scholarship, or spend a vacation under cultural influences. Conditions of work and recreation exceptionally pleasant.

Fees and Expenses of Living very moderate.

For the Summer School Announcement write to
The Registrar—Queen's University, Kingston.

Miss M. H. Villy who attended the Calgary Normal School last fall is at present teaching in the Linden S.D., near Swallowell on the C.P.R.

L. H. Luck, Principal of the Connaught School, Calgary, has been granted three months' leave of absence on account of ill health.

George Cromie, head of the commercial department, Medicine Hat High School, is giving up his position at Easter to go on his farm near Regina.

Miss Mina Norton of the staff of Victoria Prevocational School, Calgary, was recently married to Gunner F. C. Lowe, 78th Battery.

Arrangements have been made with the School Boards in Calgary and Edmonton for the maintenance of special classes under specially trained teachers for the education of children who are found backward in their studies. The Department of Education has stated its willingness to pay half the salary of such special teachers. These classes will not exceed ten to fifteen pupils as it is felt that the smaller number of such pupils is all that a teacher can handle to good advantage.

Miss Janet W. Morrison, who has been connected with the Medicine Hat schools for a number of years, and who has recently filled the position of Principal of Toronto Street School, has been granted leave of absence until September to recover her health.

The maximum salary for grade teachers in Calgary has recently been raised from \$1,100 to \$1,200 per annum and that of household science teachers from \$1,200 to \$1,300.

Five Public School buildings in Edmonton are being used by church clubs in which the Canadian Standard Efficiency Test Programme is being worked out. Voluntary leaders are provided by the churches and the buildings and their equipment are given without cost, the only expense in connection with the work being the janitor's fee. The plan is working well and possesses some very interesting possibilities. The school board is working co-operatively with the boys' work committee, and it is hoped that this extension work may develop into an effort of greater magnitude and influence.

Miss Bertha M. Samis, a recent graduate of the Camrose Normal School, is teaching in the Bittern Lake S.D., a short distance from Camrose.

Miss Florence Bennett, for two years teacher in the Connaught School Calgary, has been accepted, along with three other Calgary girls, to go overseas to do ambulance driving in France. These young ladies have just completed the St. John's Ambulance training, and also a course in motor mechanics.

The Government of Alberta has decided that the minimum salary for teachers in rural ungraded schools shall be \$70 per month or \$840

REMOVE SKIN BLEMISHES IN THE SPRING



Spring is the time when complexions need the most careful and thorough investigation. It is the ideal time for clearing up skin troubles and blemishes of all kinds. Take a mirror and look at your skin in a good light. If you see any Pimples, Blackheads, Wrinkles, Crow's Feet, Undue Redness, etc., you should call at our Institute for FREE consultation. Those living out of the city can order our preparations by mail and they will be sent on receipt of price to any address, with full instructions for home use. Write us for consultation by letter FREE.

Princess Complexion Purifier	-	-	-	\$1.50
Princess Skin Food	-	-	-	\$1.50
Princess Hair Rejuvenator	-	-	-	\$1.00
Princess Nerve Tonic and Blood Builder	-	-	-	\$1.00

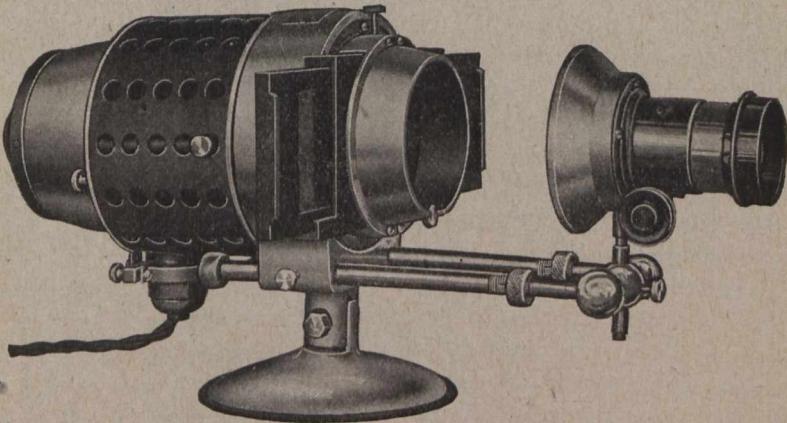
SUPERFLUOUS HAIR PERMANENTLY REMOVED

by ELECTROLYSIS, the only permanent method—our specialty for 25 years. Write for Booklet "G".

THE HISCOTT INSTITUTE, Limited

59H COLLEGE ST.

TORONTO



LANTERNS AND SLIDES

WRITE FOR PRICES

McKAY SCHOOL EQUIPMENT 615 YONGE ST.
TORONTO, ONT.

a year. In certain special cases, however, school boards may engage teachers at a less salary.

The following letter from Lieut.-Col. Nelson Spencer to Superintendent Hay of Medicine Hat will be of interest to very many Alberta teachers: "Night before last Lieut. Cameron was shot through the breast and instantly killed while scouting in No Man's Land, and to-day we laid his remains to rest in a little graveyard, about four miles from where he met his death. He had just recently rejoined his battalion from the 21st Reserve Battalion at Bramshott Camp. He was sent to the latter place after recovering from wounds which he received in the Passchendaele Row. Col. Bell and all the officers of the unit feel Cameron's death very keenly. He was cheerful, brave, very venturesome, and always considered others' comfort and welfare before his own. Since his return to the unit he had been acting as scout officer and doing good work. You will have seen that he had just been decorated with the D.S.O. His brigadier tells me that had he had another witness he would have got the Victoria Cross. He was the same good-natured, boyish individual as when he had charge of the school at the Hat."

Manitoba

The Manitoba teachers met in annual convention on April 1st to 4th. The attendance was large. In next issue there will be further reference to this event.

During the last 112 weeks there have been established just 112 new schools in Manitoba. These new buildings together with additions to old ones provided accommodation for over 4,000 children of school age.

On March 19th, Hon. R. S. Thornton, Minister of Education, officiated at the formal opening of a new consolidated school at Eden. This is a new consolidated school district and the building is a four-roomed structure of recent type with complete equipment for the broader training now demanded from our schools.

Educational work in Manitoba is facing a crisis owing to the increasing shortage of teachers. The matter was seriously considered at the convention of trustees, held in Winnipeg a short time ago. Mr. Ira Stratton, official trustee, declared that unless higher salaries are paid and better accommodation is provided the rural schools will have a momentous situation. During the past two years many teachers have been attracted to Saskatchewan and Alberta by the larger salaries paid. The convention finally adopted a resolution advocating higher salaries.

The University of Manitoba and the Agricultural College have under consideration a new course leading to a degree, whereby a girl may take part of her work in the University and the balance at the Agricultural

Continued on page 710.

TERM EXAMINATIONS

BOOKS THAT EVERY TEACHER & SCHOOL LIBRARY SHOULD POSSESS

Books on the WAR are legion, but there are very few books on the PERSONALITIES that have been and are still identified with the activities of the War. Mr. A. G. Gardiner has established an international reputation through his character sketches that have appeared in "The Daily News" of London for some years and the best of which are to be found in:—

"WAR LORDS"

"PROPHETS, PRIESTS AND KINGS"

"PILLARS OF SOCIETY"

Illustrated cloth bound books, silk book mark 50c. each. The Three will be sent to any bona fide teacher or library for \$1.25 postage paid.

Another book of CHARACTER SKETCHES but of CANADIANS. By Augustus Bridle [Managing Editor of "The Canadian Courier"] who has been aptly styled "The Gardiner of Canada". The book has 34 Biographical Sketches, 16 illustrations from Original Drawings. By F. Challener, O.S.A., R.C.A., and the Ontario College of Art. Cloth bound, Published at \$1.50; we have a few left, which we will send to bona fide teachers at 85c. postage paid.

A book that has the hearty endorsement of The Ontario Department of Education

"THE POST OF HONOUR"

The most successful educational book of the year.

It contains stories of daring deeds done by men of the British Empire in the Great War. Many told in their own words, and and others edited and retold by that skilful story-teller, Dr. Richard Wilson. Cloth bound and illustrated 25c., postage 5c.

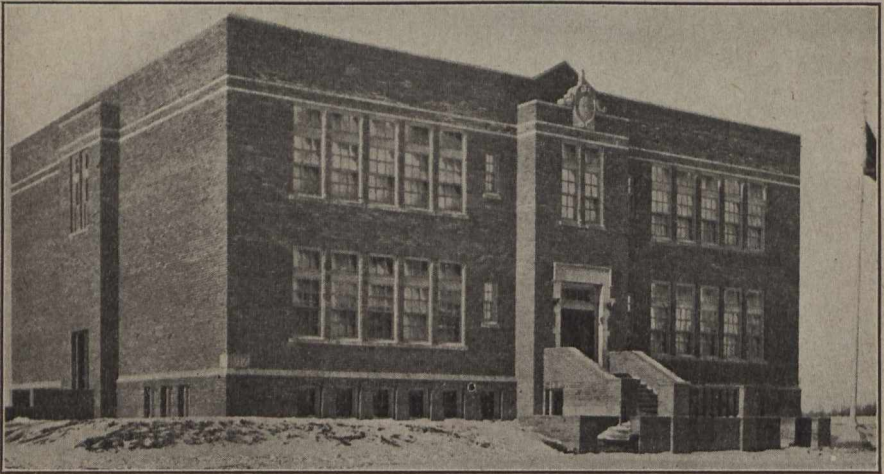
Issued by the Publishers of

"EVERYMAN'S" and "WAYFARER'S" LIBRARIES

J. M. DENT & SONS Ltd., London, Paris and
27, Melinda St., **TORONTO**

College. By this scheme the student will spend the mornings at the University, taking up such subjects as history, logic, literature, political economy, and in the afternoons spend the time with such subjects as dressmaking, textiles, chemistry, food, cooking, and so forth at the Agricultural College. It is hoped to have the new course ready for the opening of the fall session.

The Brandon Teachers' Association met on March 27th when the following officers were appointed: President, Alfred White, Superintendent of Schools; vice-president, F. A. Wood, Principal of the Wheat City Business College; secretary-treasurer, Miss Reid, of the Normal School; representatives to the Social Service Council, Rev. T. Ferrier, Miss N. M. Moore and B. J. Hales, M.A.



THE CONSOLIDATED SCHOOL DISTRICT OF FOXWARREN, MAN.
The New Building completed in December, 1917.

At Foxwarren on December 19th was opened one of the finest schools to be found anywhere. Foxwarren is a live little burg with a population of about 230, but on account of consolidation they have been able to erect a solid brick school costing \$50,000, in a school plot of ten acres which will be used for playgrounds and gardens. The building is lighted by electricity, heated by steam, and fitted throughout with the most modern sanitary plumbing and ventilation. It is a fine example of school architecture and school equipment, and was made possible through consolidation and a live public opinion which demanded the best for the boys and girls. Hon. R. S. Thornton, Minister of Education, who was present on the occasion of the formal opening, declared that "it is the newest, and finest, and most complete school in the Province, an inspiring example to trustees and ratepayers, and a landmark in the history of education in Manitoba."



LABORATORY EQUIPMENT

Science Supplies for Instructor and Students.—Every Science

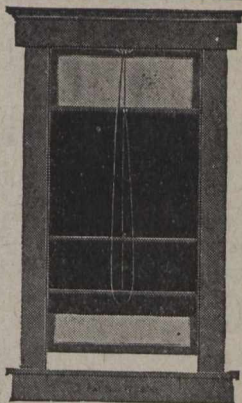
CAMBOSCO CATALOGS

- 91 BOTANICAL—General and Special
- 92 BIOLOGICAL—Plants and Animals, Slides
- 93 PHYSICAL—General, Complete
- 94 CHEMICAL—Complete, New 1918
- 95 Millikan, Gale & Bishop—Special, Arranged by Experiments

COMPLETE CHEMICAL CATALOG.—Just issued. Obtain it, consult it before you place your next order. Ask for 94-C.

TERMS:—Special Discounts to Canada and for Original Installation. Obtain CAMBOSCO Current-Net-Itemized Prices.

Cambridge Botanical Supply Co.
Waverley, Mass., U.S.A.



Draper's Schoolhouse Window Shade

Operates without a roller. Shade cloth cotton duck, without filling—will not check nor crack
Guaranteed for 8 years.

Let us send you samples of cloth and estimate on your new or old buildings.

Luther O. Draper Shade Co.
SPICELAND, INDIANA, U.S.A.
Dept. G.

Glen Mawr,

651, SPADINA AVE., TORONTO.

Re-opens September 13th.

RESIDENTIAL AND DAY SCHOOL FOR GIRLS.

Principal - Miss J. J. STUART
(SUCCESSOR TO MISS VEALS).

CLASSICAL TRIPOS, CAMBRIDGE UNIVERSITY, ENGLAND.

LARGE, WELL-VENTILATED HOUSE, PLEASANTLY SITUATED
HIGHLY QUALIFIED STAFF OF CANADIAN AND EUROPEAN TEACHERS
THE CURRICULUM SHOWS CLOSE TOUCH WITH MODERN THOUGHT,
AND EDUCATION. PREPARATION FOR MATRICULATION EXAMINATIONS. SPECIAL ATTENTION GIVEN TO INDIVIDUAL NEEDS.
OUTDOOR GAMES.

PROSPECTUS FROM MISS STUART

THE CHICAGO BIOLOGICAL SUPPLY HOUSE

5505 Kimbark Ave., Chicago, Ill., U.S.A.

Biological Supplies of all Kinds

For Zoology

FROGS
PERCH
SNAKES
PIGEONS
CAT—*injected*
CRAYFISH
INSECTS
CLAMS
EARTH WORMS
ETC.

For Botany

SPIROGYRA
CHARA
MUSHROOMS
LICHENS
LIVERWORTS
MOSSES
HORSETAILS
CLUB MOSSES
FERNS
ETC.

Microscope Slides, 1000 Kinds

Write for Catalog

When writing advertisers, please mention THE SCHOOL.



A Severe Exam.

"Kindly let me know the price of your French Course. Some years ago I passed a very severe examination in Latin without the aid of any teacher other than your method."

J. A. M., Moncton, N.B.

LATIN, FRENCH, GERMAN, SPANISH, by Mail
Students the World Over.

L'ACADEMIE DE BRISAY

414 Bank St., Ottawa

The Competition in Art

Conducted by

The School, BLOOR and SPADINA, TORONTO

RULES FOR COMPETITORS.

1. The work must be original and must be so certified by the teacher.
2. All work must be on drawing paper of dimensions either 6" x 9" or 9" x 12".
3. Drawings must be sent flat—not rolled. Rolled packages will not be sent on to the committee of judges.
4. Sufficient postage for return must accompany each package. If this rule is not observed, drawings will not be sent on to the committee.
5. Work entered for the February competition is to be done during January and must reach this office not later than February 8th; that for March is to be done during February and must reach this office on or before March 8th and so on.
6. The three best pieces of work, if they are deserving, will be awarded prizes in order of merit—first, second, and third.

For Public and Separate Schools.

	A. Forms I and II or Grades 1, 2, 3, 4.	B. Forms III and IV or Grades 5, 6, 7, 8.
FEB.	A coloured crayon drawing of a Christmas toy from memory. To be done in the class-room without the teacher's direction on the day following a lesson in which a drawing was made by the pupils from the object under the teacher's direction.	Construct a letter holder in the form of a wall pocket, as large as can be made from paper 12" x 9". Tint the whole sheet. Any further decoration should be done in water colours. Leave undecorated margins of good proportions.
MARCH	A coloured crayon design of an Easter card lettered with simple capitals.	An illustrative drawing, finished in water colours, of any of the numerous lines suitable for illustration from "A Canadian Camping Song", page 65, Third Reader.
APRIL	A simple design in charcoal or black crayon for a figured muslin or checked gingham for girls; prints or suitings suitable for boys.	A black and white surface pattern in line and spot for any printed fabric—curtains, scarfs, dress goods, papers, etc.
MAY	An ink silhouette of a pose selected from some sport or game in which boys and girls are interested.	A pencil drawing of a small group of kitchen or garden utensils. All lines used in blocking in the group should be left.
JUNE	An illustrative drawing in one colour, black and white, of some word picture suitable for illustration, taken from the First or Second Reader.	<ol style="list-style-type: none"> 1. A water colour drawing of a spring flower. 2. A simple, conventionalized unit based upon the same flower. 3. Adaptations of this unit to fit a square, an oblong, and a circle. The best arrangement of all the above drawings on one sheet 12" x 9" will also be considered.

The Competition in Art

Prizes.—Twelve prizes are awarded each month, three in each of the four competitions. These prizes are donated by the Prang Company of Chicago, New York, and Toronto (23 Scott Street).

Competitions A and B.—*First*—Prang's Water Colour Box, No. 5. *Second*—Prang's Grayed Crayons, No. 50. *Third (A)* Prang's Stick Printing Dyes. *(B)* Art Education Crayons, No. 2.

Competitions C and D.—*First*—Prang's Tempera Box, No. 1. *Second*—Prang's Water Colour Box, No. 8. *Third*—Art Education Crayons, No. 2.

SPECIAL—To the school whose pupils win most prizes in the series a set of Prang's Colour Charts.

Do all work for C. and D. Competitions on paper, 9" x 12".

For Collegiate Institutes, High and Continuation Schools.

	C. Lower School <i>First and Second Years.</i>	D. Middle School <i>Third and Fourth Years</i>
FEB	Make a <i>pencil</i> drawing of a primula or a begonia, or other winter-blooming house-plant in the pot. Express light and shade and colour value. Make the drawing at least 8 inches at its greatest dimension.	Design a teapot and decoration for it suggested by Saracenic or by Greek ornament. Express the completed design in a contrasted colour harmony. Make the teapot about 7 inches high.
MARCH	Represent in <i>water colours</i> the house-plant chosen for the pencil sketch in the February competition. Make the drawing at least 8 inches at its greatest dimension.	Make a <i>pencil</i> drawing of an interesting detail of some <i>Gothic building</i> you know, such as the entrance to a church or college, or a clock tower, or a mullioned window.
APRIL	From the primula, or from the house-plant chosen for the January and February Competition, <i>design an ornament</i> for a selected piece of pottery. Draw this piece of pottery and apply the ornament in colour to make a dominant harmony.	Make a <i>pencil</i> drawing, 10 inches high, of a library electric lampstand and shade. The stand may be of brass or of wood; the shade may be circular and domed, or square and pyramidal.
MAY	Make a <i>pencil</i> drawing, at least 8 inches in width, of a small table book rack, in which a few books are standing. Draw an open book in front of the rack. Show the top of the table. Composition, lighting, colour values, perspective and pencil technique will be noted.	Make, in <i>pencil</i> , a perspective drawing of the end of a room, showing the end wall and a portion of the ceiling, side walls and floor. Place a window on the left side, a door opening out on the right side and a door opening into the room in the end, facing the spectator. Add other appropriate details.
JUNE	Design a cover, 4 ins. by 9 ins. for a box for neckties. The decoration is to be of some simple floral motive, and the lettering may be either in Roman or in Gothic letters of appropriate size.	Design a menu cover for a <i>Thanksgiving Day Banquet</i> . Use appropriate ornament in form and colour. Letter with Gothic or Roman letters.

BISHOP BETHUNE COLLEGE

Oshawa, - Ontario

Visitor: The Lord Bishop of Toronto

A Residential School for Girls

Young Children also received

PREPARATION for the University, Art Department, including drawing, painting, wood carving and art needlework. Toronto Conservatory Degree of A.T.C.M. may be taken at the School. Fine healthful situation. Tennis, basketball, skating, snowshoeing and other outdoor games.

For terms and particulars apply to the Sister-in-charge, or to the

Sisters of St. John the Divine

Major St.

TORONTO

A PUBLIC BENEFACTOR

The man who invented the wrist watch might truly be classed a public benefactor.

Men, women and children who have tried them may well sing his praises.

No unbuttoning of the coat—no fumbling in the pocket—nothing to do, but just look at it.

Working about the house, in the garden, at the office, at the bench, in church, at the theatre, always "at your service".

In nickel from \$6.50 up.

In sterling silver from \$10.00 up.

In best gold-filled from \$15.00 up.

In gold from \$25.00 up.

Guaranteed, of course.

Ryrie Bros., Limited
134-136-138 YONGE ST.

TORONTO

JAMES RYRIE,
President.

W. M. BIRKS,
Vice-President.

DRAMATIZE SOME OF THE GREAT BIBLE STORIES.

A book which presents cogent reasons for leading children to dramatize great religious stories—develops the process of creating drama from biblical stories—shows stories in all stages of development by children engaged in their dramatization—suggests simple and practical directions for staging—is

The Dramatization of Bible Stories

By ELIZABETH E. MILLER

Instructor in Art in the School of Education, the University of Chicago

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