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EDITORIAL NOTES AND COMMENTS.

We publish in this issue a copy of a letter sent to all Inspectors of Protestant Schools in this Province by Dr. Sinclair, Dean of the School for Teachers, Macdonald College, in which he points out the advantage to be derived by School Boards in communicating with him in regard to securing the services of a competent teacher.

SUMMER SCHOOLS.

In view of the fact that at the present time much stress is being placed upon the importance of the proper teaching of the French language in our Superior Schools, all teachers who have a fair knowledge of the language and an aptitude for teaching it should avail themselves of the opportunity afforded by McGill University to perfect their knowledge by attending the Summer School in Montreal, next July. In this issue will be found a copy of the curriculum and all necessary information for candidates.

NOTE TO TEACHERS—To interest the senior pupils and provide them with profitable reading a few pages of interesting selections and original items will appear in each issue of the RECORD. Please call the pupils' attention to these pages and ask them to read such parts as they prefer.—EDITORS.

HAND AND EYE TRAINING.

At the present time there is a quickened interest in Hand and Eye Training over the whole civilized world. Many new books appear on the subject every year, but none are more deserving of high praise than "Educational Handiwork," by T. B. Kidner, Director of Manual Training for the Province of New Brunswick. (Educational Publishing Company, Toronto.)

Mr. Kidner is an Englishman of sound common sense and thorough education. He came to Canada ten years ago at the request of Professor Robertson, to assist in establishing the Manual Arts in Canadian Schools. He is well known to most of the the teachers of this country through his illustrated articles on Hand Work, which have appeared frequently in the leading Canadian and American educational journals.

The work deals briefly with the general question of Handwork, and then describes courses of lessons to extend over the first eight or nine years of school. The first courses carry the pupils from exercises with Kindergarten paper, through modelling with stout paper into the construction, designing and decorating of cardboard models, book covers, etc. For the higher grades there is the Construction in Cardboard of the Common Geometrical Solids, and the application of cardboard work to the study of Descriptive Geometry. Finally, there is a well-illustrated chapter on raffia work, the wrapping, braiding, netting and weaving of this material into a hundred forms beautiful and useful.

There are enough drawings in the book to make the work practical. In addition to the working drawings, a perspective view of many models is shown. The descriptions are perfectly clear. In fact, Mr. Kidner prepared the book for those who knew little about the subject, and he tells just what to do and how to do it. Any interested and intelligent teacher can take the book and give the course of lessons. That the work is just what thousands of teachers are looking for goes without saying, and it is not surprising that the book is being introduced into almost every Normal School in Canada.

THE TEACHER'S MENTAL ATTITUDE.

BY F. H. SPINNEY,
Principal William Lunn School Montreal.

We read a great deal these days of the value of a correct mental attitude. On it are said to depend in a large measure Health, Happiness and Success. Whatever there is of truth in this doctrine applies with special emphasis to the teacher. To no class of workers is a correct mental attitude more essential. It will be well to consider the matter in four divisions—their view of the profession, their breadth of mind, their attitude towards the child, and the attitude towards the school as a whole.

1. As to their view of the profession. Ruskin says: "Tell me what you like, and I'll tell you what you are." If a teacher tells candidly her opinion of teaching, we can form a fairly correct estimate of her rank as a teacher. Miss A, with the untidy appearance and worn-out expression, answers that she "detests teaching," and that she longs for the hour of dismissal, and more especially for the approach of the holidays. To her the vital consideration is the monthly check, and she is loud in her denunciation of the poor salaries paid to teachers. We all know Miss A's rank as a teacher. Miss B, on the other hand, is enthusiastic over the wonders of the child mind, realizes, with a deep feeling of responsibility, the marvellous possibilities of her work, and goes to her daily task with joy in her heart. She welcomes the holidays as a period for a much-needed rest, as well as for her own personal growth and development. She does not scorn the pay envelope; but knows in her heart that the salary is not the god that she worships. Her dress and her countenance betoken her spirit. She had no "bad" pupils. She realizes that mischief is but a form of misdirected energy; and seeks to prevent mischief by directing the energy in proper channels. Work should ever be judged by the worker. When princes dig ditches, ditch digging becomes royal labor; when a tyrant ascends the throne, kingship becomes a dishonor.

2. As to the teacher's breadth of mind. Next in importance to the nature of our thought is its area. Have we been wearing mental blinders so long that we can think

only in one direction? Has all our knowledge been obtained from prescribed texts, and is our conversation confined to petty gossip and a repetition of commonplaces?

Does education to us mean the mere memorizing of a stock list of cut and dried facts and figures? Or have we reached a plain where we get a wider view, where education means evolution, development, growth? Physical life implies eliminating dead matter and evolving new tissue: so mental life must imply eliminating false, lifeless thinking and refurnishing our mental storehouse with material, bright, attractive and up-to-date.

Who are our mental companions? The passing writers, or the mighty dead who yet live? How often do we seek the society of Tennyson, Carlyle, Emerson, Ruskin—those inspiring souls who are glad to talk to us, without affectation or conceit? Are we exercising our own thinking machine to its fullest capacity, or, to express a sad plight in one expressive word, are we in a *rut*? Is it not time that we took account of mental stock, cleared away the rubbish, and got out into the busy market place, to take note of the mental merchandise that is moving there?

3. As to the teacher's attitude towards the individual pupil. Is this boy in the front seat, with the rosy cheeks and blue eyes, but a spoke in the wheel or routine that we turn? Does "talkative" Tommy disturb our mental serenity? Do we often cherish bitter feelings towards a "troublesome boy" because he does not render a passive compliance to all our time-honored rules and regulations? Do we become impatient and angry because "stupid" Willie is a "hopeless case," even after the most thorough treatment with our prescription of facts and figures?

Do we realize that each boy who comes to us for guidance and instruction is a wonderful, untried possibility? Here are muscles, nerves, brain, whose future experiences are unknown to the wisest philosopher. Residing in his physical, mental and moral structure are latent faculties, awaiting the skillful guidance of the educator for their best development. Are we fitting our system of work to the child, or are we attempting to adapt the child to an unyielding system? Unless the former is our aim, even under the most difficult conditions, we are not fulfilling the highest functions of the noblest calling.

4. As to the teacher's attitude towards the school. Here before me are 35 boys and girls. They have assembled here, not knowing any well-defined reason; but in conformity with an evolved custom. That they may learn to read, write, spell, etc., does not involve a small percentage of what is essential to make them industrious, honest, successful, happy men and women. Their health, their manners, their tone of voice, their physical appearance will all have a marked influence in shaping the course of their lives.

Is our discipline of such a nature as to guide them in that self-discipline so essential in the keen struggle they are about to enter? Are we cultivating in them a love of what is noble, true and good? Do we make it plain to them that in the great battle of life he is the coward who yields to temptation without a struggle, or runs away from difficulties without a brave attempt to conquer them?

In a word, we have under our control a miniature community of budding citizens. Are we using our best efforts to make them good citizens of the larger community that they are so soon to enter? We, as teachers, are moulding the characters of the coming mayors, aldermen, judges, cabinet ministers, etc. That is, we are shaping the destiny of the nation. Nor are these exaggerated statements. Is our work then something to be treated with disdain? Should a teacher be guilty of admitting that the teacher's status in the social world ranks below that of any other calling? Has any intelligent man ever given a reason why it should be so? "The teacher's time is spent with children." Is not a large portion of the parent's time spent with children? If not, it should be. Of course, there are men and women who consider the grand rush for the almighty dollar of far more concern than the physical, mental or moral welfare of children. Whatever others may think of the profession of teaching, let the teachers maintain that it is the most important and the noblest calling in the world. If we do not really think so now, we can make ourselves think so by holding that thought firmly in the mind, and by giving it emphatic expression on every appropriate occasion.

THE GRAPHIC METHOD IN HISTORY.

BY W. CLARK SANDERSON.

I recently picked up a chance copy of Garlick's *New Manual of School Method*, and in glancing through the section dealing with method in history, I found no less than seven methods enumerated and explained in outline. These were as follows:

1. The *chronological* method which tells the story in the strict order of time.

2. The *Parliamentary* method by which "a reign is taught through the medium of its Parliament.

3. The *Classification* method which classifies the details of a period under a series of well-known heads as growths of liberty, colonization, education, church, trade, navy, etc.

4. The *Biographical* method in which the events of the reign are considered as the work of the great men of the reign, example, Lord's "Beacon Lights of History."

5. The *Progressive* method which begins with present times and works back step by step to the earliest times.

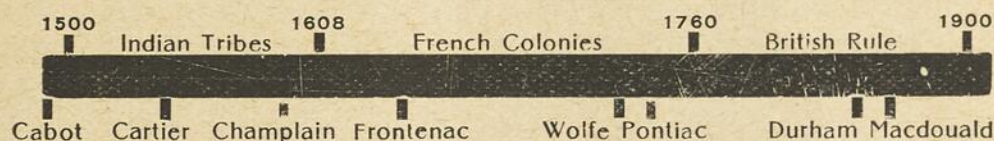
6. The *Concentric* method which presents a point of interest in a simple form and expands it by more comprehensive study.

7. The *Comparative* method which sets side by side two men or two events that are similar and brings out their similarities or contrasts.

To these I would add another method, and it is this I wish to discuss in the present article. I refer to what I call the *Graphic* method.

There is no teaching device quite so useful as the graph. Its simplicity, its adaptability, the ease with which it may be constructed, the perfect conviction it carries—these give it advantages not possessed by summaries or analyses, pictures or supplementary texts. There is no subject which it will not illuminate. When it is required to summarize the functional relations of the several digestive organs, to correlate the nutritive processes of a plant, to exhibit the proportions of English, French, native, etc., in the population of Canada, to show barometric variations, to illustrate the maximum value of a function of x , to find the resultant of

two forces acting at a point, to compare Canada's drink bill with her expenditure on schools, to teach the musical scale, to set forth our direct line descent from the Mayflower Pilgrims,—we can find no method of representation or elucidation so direct and thoroughly self-explanatory as the graph. A magnitude of one kind is used to represent a magnitude of another kind. A magnitude of three dimensions is represented by a magnitude of two dimensions or even one dimension on a page. A purely intellectual magnitude possessing no spacial dimensions is symbolized by a material magnitude which makes a direct appeal to the senses. Returning through the senses to the intellect it clarifies the conception of itself and increases its own value.



The value of the graph as an aid in the teaching of history is, I believe, very little regarded, even by those who if asked are ready to admit its usefulness. The teachers of Manitoba have now for several years been afflicted by the presence on the programme of studies of a dismally dry and unteachable text in Canadian history. Both teacher and pupil dread to open the subject, and even if they possess the requisite courage they are compelled to expend an unnecessary amount of energy in organizing the jumble of facts the book contains. For this reason I shall use Canadian material to illustrate the graphic method of teaching history.

The student about to enter on a course in Canadian history has already had a course in English history. He knows what a "period of history" is. So his first lesson will not wisely be the first four or five pages of a continuous narrative of Canadian events. He can grasp broad relations. He can seize the whole period in his mind. If it is set before him in bare and complete outline he can see it as a scheme which he can more and more completely fill with facts and persons and events always in the true relations. When this has been securely grasped he can leave the general consideration of the whole scheme and study the story in order, in detail and in entirety.

Canadian history is somewhat over four hundred years old. Its whole duration may be represented by a line of convenient length, say 12 inches, on paper, or 6 feet on the blackboard. When the dates 1500 and 1900 are marked at the ends of this line with a fraction of an inch extension at each end for the dates 1497 and 1910, the student has compassed the limits of his subject. Within these limits we will now proceed to set up land marks dividing the whole into periods. Indian, French, English, marking each with its conventional date. At two or three points in each period we will write the names of most prominent actors, and as a means of impressing their personalities we will give a few interesting personal incidents relating to them. Then, as the student would be required to draw and redraw a map of a province, so he must now copy and repeat his graph until he can produce it with freedom. It is the elementary scheme of his term's work to which he will return continually as he fills it with detail.

The scheme of division into Indian, French and British periods is adopted as one of the most definite that can first be presented. But as the chief actors in the story are introduced, the nature of their work and the changing conditions under which they worked will lead to a new division or subdivision of the whole time, on the basis of more abstract conceptions. Cabot and Cartier inaugurate the period of discovery which indeed has not realized its sunset yet, but which shone with noonday splendor by the achievements of Champlain, Marquette, La Verendyre, Mackenzie and Fraser. To Cartier belongs the glory of the first European colony in the land. The story of the vicissitudes of colonization will require a new set of landmarks corresponding to the times of war or peace in the colony or at home.

Under each regime various administrative experiments were made. Each type of government was introduced by an act or decree which had the advantage of a definite date. It endured a definite time and gave place to another.

Each of these phases of the history will form the subject of a graph, which may be used by the students as an exercise or furnished by the teacher. In either case it will be made the subject of a class discussion and will be related in graphic form to the first fundamental graph of the national

periods. This last point is most important. There will be no method that will give in so concise, clear form the general relations of any period.

Another valuable form of the graph as a history teacher is the map. For an example we need go no farther in search than to Duncan's "Story of the Canadian People," in use in all our schools. The extent and boundaries of the territory possessed by Britain in successive eras is easy to remember. If arranged in sequence on a page their positions there will soon give them permanent positions in the memory, and their comparison will always raise the question of why the changes took place.

Marking on a map the places concerned in a series of events is a valuable exercise, but it lacks one feature of importance, it does not give their chronological order. This may be overcome, however, as follows: Let the outline of the region be drawn. Then at the bottom of the sheet let a linear graph of the period be made with the required dates marked. Now draw a light line from each date to the point on the map where the event occurred. If more convenient the date line may be drawn as a circle or semi-circle surrounding the map. This will allow shorter leading lines.

The difficulty of remembering dates has been the subject of many worn-out jokes. All kinds of mnemonic aids have been suggested. Garlick's book above mentioned describes a method of pigeon-holing them which may be of some assistance. I shall describe it by quoting direct:—

1810		
1811 Lord Selkirk	1812 Queenston Heights	1813 Moravian Town
1814 Lundy's Lane	1815	1816 Seven Oaks
1817	1818	1819 Victoria Born

"Each decade is divided into nine squares in three rows of three each. These squares are surrounded by a top border which always begins the decade. It will then be observed that the ones and the nines are at opposite corners, as are the sevens and the threes, and that the five is always in the middle. It is claimed for this method that after a little practice the difficulty is not to remember, but to forget. The event desired to be remembered should be entered under its proper date in the square. Professor Meiklejohn has paid it the great compliment of adopting it in his history. It has this to recommend it, that it is based on space relations, and so presents a picture to the eye."

This last characteristic is in fact the one feature of special value in all graphic representation.—*The Western School Journal*.

ENTHUSIASM IN TEACHING ARITHMETIC.

Many a teacher is made unhappy on account of the response of her classes in arithmetic. The children seem dull and uninterested. They have to be forced to do their work. They forget what they have learned and their progress is slow. We sometimes lay the blame on the natural dullness of the children or to their previous training, but often it lies somewhere else. A class that is dull for one teacher is bright for another; one that seems to have no background of information for one is teeming with knowledge for another. The difference lies not so much in the classes as in the teacher's ability to arouse and sustain interest and enthusiasm. A teacher unable to do this has a dull class. The one who can has a bright, lively class. What, then, are some of the things which arouse enthusiasm? What things, on the other hand, dampen it?

A long list of answers might be made to either of these questions. Some things, such as enthusiasm, thorough preparation on the part of the teacher, organization of work, and regularity and definiteness of lessons, must be taken for granted as necessary to sustaining interest; the habit of scolding, keeping delinquent children after school, and lack of enthusiasm in the teacher must be considered

as some of the final causes for the lack of interest. There are other things equally important which we are likely to overlook.

In discussing what will arouse enthusiasm we are apt to overlook the psychological law that the mind likes to do what it feels confident that it can do. This is the truth in the saying, "Nothing succeeds like success." A class that has found out that it can compute with some degree of skill takes pride in the fact and works with enthusiasm to perfect itself. Such a class will work hard. On the other hand, a class that is discouraged has the air, "What is the use anyhow? We never can do it." It makes but little effort. One of the first rules for arousing enthusiasm, therefore, pertains to encouraging a class. Wise praise, a contented face, a smile of approval, together with work developed by easy steps, go far toward obtaining the interest of a class. Work that is too difficult, the habit some teachers have of informing their classes that their work is poor, are the next way of killing enthusiasm and making the work unsatisfactory.

A sound means of kindling enthusiasm is the development of independence on the part of the children. The teacher who does the work for a class, interrupting an explanation, prompting a child or otherwise offering him a crutch, will have in the course of a few weeks a dull, powerless, dependent and unenthusiastic class. A child called upon to recite, instead of expressing his ideas with avidity and quickness, will stand and wait for his teacher's impatient questions. The attention of the class as a whole will be lost and everything will go wrong. How different it is when the children are made to depend on themselves and the class rather than the teacher.

If a mistake is made it is the business of another child to discover it and offer aid to the pupil who has made the error. If a child does not understand, the other children question him in a most co-operative, lively manner. Everyone is attentive, everyone is eager to help; everyone feels alive and enthusiastic.

One of the best means for obtaining the desired independence on the part of the pupil are the game work and original problems. A game by nature is a scheme of co-

operation and stimulation. Each child is put on the alert, watching for his turn or waiting to catch some one else. The work with original problems is similar. Data are put on the board and the imaginations of the children are stimulated. The child acts on his own responsibility. His problem and work are his own.

In order to establish a third rule for securing enthusiasm in a class there must be a recognition of the fact that the brain has its periods of effort and fatigue. To continue one kind of work after the mind is tired is to more than waste time. It kills enthusiasm and interest. The wise teacher, therefore, sees that within each recitation there is enough variety planned to avoid fatigue and consequent loss of time.

It is well to divide a recitation into short periods with the little children, one for quick work, another for the development of a new idea and the application of the same, and another for original statements and problems connected with the thought or process developed. Such a plan gives variety and at the same time allows for unity and thoroughness.

A fourth phase of the work to be emphasised concerns the seat-work of the children. It helps the pupils to respect their work and feel enthusiasm for it if they are taught to do this neatly, to illustrate it occasionally with pictures cut out of magazines or with diagrams drawn with a ruler. If the teacher further takes enough interest occasionally to exhibit the work of all the children, good and bad, by hanging it about the room, the children feel that "someone cares," and have corresponding pride in their papers. Slovenly seat-work is a sure test that a class is losing, rather than gaining, ground.

A fifth means of securing one end is keeping the motive for the work pure. The work should be done for the sake of the work. Rewards, stars at the blackboard, lists of names, destroy the right motive and make the work a means to self-aggrandizement and selfish egotism. Threats of punishment, punishment itself, such as keeping children after school or failure of promotion, are of the same nature as rewards and should be used with special care. The arithmetic work should be lively enough and interesting

enough to be done for the mere pleasure of the activity. The mind likes to use its power of logic and its mechanical task of computing just as the body likes to take food. To substitute an artificial motive for a natural one is to kill the natural one and deaden the work.

A sixth and final rule for making the children enthusiastic over their arithmetic has reference to the slower children in a class. If the bright ones are encouraged and the slow ones discouraged, the breach between them grows wider and wider until the class gets to a point where it is almost impossible to do anyone in it justice.

The bright pupil has his rights as well as the dull pupil. He should not be kept back, but every subject has its intensiveness as well as its extensiveness. The bright pupil should be expected to go deeper into things and acquire more skill, while the ground covered is adapted to the slower pupils. More problems should be given the bright ones to do; more original work should be required of them. By this means justice can be done to both classes of pupils.

Power to kindle enthusiasm might be summed up in the following rules:

Give the pupils confidence in themselves by keeping the work within their power and by encouraging them.

Make the pupils independent by throwing the responsibility of their work upon them.

Give sufficient variety in a recitation to prevent fatigue.

Lead the children to take pride in their seat-work.

Teach arithmetic for the sake of arithmetic without rewards or punishment.

Give the bright children extra work; adapt the program to the duller pupils.

The same rules might be expressed negatively:

Do not scold or otherwise discourage pupils.

Do not interrupt a pupil's exercise or otherwise do his work for him.

Do not lose time by keeping upon an exercise after the minds of the children are fatigued.

Do not encourage habits of carelessness by accepting untidy seat-work.

Do not offer rewards or inflict punishments.

Do not neglect the dull pupils, or leave the bright pupils without sufficient work to do.—Teachers' Magazine.

SCHOOL MANAGEMENT.

There are two kinds of school management, the autocratic and the democratic. Both are results of two beliefs or theories of education. In one case school management is a means of education, in the other it is the fundamental principle of the education. In the first it is in the hands of the educator; in the second, it is in the hands of the educated. The first method maintains itself in the belief that education is knowledge; the second maintains itself in the conviction that education is power to do, to think, and to react in the best possible way to world stimuli. These two methods are so innately distinct that it becomes an easy matter to trace each with its corresponding theories of education and all the involved factors.

The autocratic method vests most of the power and executive work in the teacher. The success of a room is assured or denied inasmuch as the teacher is inspiring and forceful on one hand or uninteresting and weak on the other. By the word success note that we do not imply cooperation, thinking or doing, but refer only to an external order, or rather a negative freedom from disorder and mischief. Now, since all teachers have not the same degree of power it follows that the real success of our schools is a matter of chance. The classes will range from A to Z, and lack letters to express differences. There is a need for a constant force, and that force must be a basal principle which leaves out the teacher's personality and power of discipline and makes paramount the tendencies common to every child, to every class, to every school. However, if those who apparently succeed in this autocratic method show desirable results along truly educational lines there may yet remain some defense for it. Let us ask, why do we educate? The most practical and truest answer is, to fit children for life and its problems. This premise at once gives us the definition of education. Education must be power—power to think, to plan and to execute. The means to the attainment of this power is the important question, and one which never can be solved until mere facts are ignored and the individual respected. Many realize the aim of education theoretically, but are lost in a sea

of doubts when practice enters into consideration. In the average schoolroom the teacher directs, questions, answers, sets her standard, and judges and acts accordingly. At best, what dwarfed conditions! Think of fifty living intelligences under the czardom of one mind. These children ape and imitate; a development is forced upon them when they are not ready. Devotees of this method claim that the age and experience of the teacher makes her naturally the source of all knowledge and power. Yet, just because she is so far beyond in age and intellect the child must despair. He has no force with which to compete. Is it not true that all humans like to match strength with adversaries when emulation is possible? We all like work with people of our own or nearly our own capacity. Then again, the teacher must at times grow irksome. Her questions grow wearisome, for they are products of one individualism. She does not understand, when perhaps maintaining a passive order by mere indomitable will, why some heads droop, few hands respond and a heavy lethargy results. She has order, but the order of torpor and restraint. Fellenberg says: "Experience has taught me that indolence in young persons is so directly opposite to their natural disposition to activity that unless it is the consequence of bad education it is almost invariably connected with some constitutional defect." Spencer says, too: "Even when, as considered theoretically, the proposed course seems best, if it produces no interest, or less interest than another course, we should relinquish it; for a child's intellectual instincts are more trustworthy than our reasonings." If, then, we follow where the "child's intellectual instincts" lead we shall never err by dogmatic teaching, but shall gladly accept that method which awakens interest and makes the child a spontaneous, living, thinking and moral living.

The self-governing method vests most power in the child, and by creating conditions similar to future ones, and teaching the child now to react fulfills the truest ideal of education. The simplest and most practical form of this method is that of self-questioning. The teacher gives her lesson and receives concentrated attention, because her words, few and fraught with significance, have become precious; her questions are few and pointed, and given, not

so much to test as to give a model and to lead the mind by gradual degrees to the end in view. Having acted as guide she throws the subject like a ball into the field. The children wrestle and grapple with a vim. No longer contending with an enormous superior force, but with power averaging their own they grow confident and pass rapidly from one conclusion to another. Eyes brighten, cheeks glow with the mental gymnastics—every child is alert, ready to question an inaccurate statement, glad to add additional knowledge, ready to give and take wholesome criticism. During all this each is learning to give way, the first steps in the lesson of unselfishness and consideration of others. The wholesome criticism of classmates is a rare tonic for braggadocio and domineering, and, strange to say, a far more effective one than the teacher's reproof. At the same time the child is getting facts, assimilating and reacting; he is becoming quick-witted and observant, for he feels responsible not only for his own but his neighbor's words. Polite and deferential, unselfishly interested in his fellow-being, he assumes his right position in society. He learns to adapt himself to circumstances quickly, and acquires an assurance and confidence born of self-judgment and not of conceit. In short, he becomes an active member of a democracy.

For the child the benefits of the latter method are obvious; for the teacher, interest and pleasure. School work is no longer a routine, but gives opportunity to watch and study the most interesting growth, that of human nature, a miniature panorama of evolution. Spencer believes that "the genesis of knowledge in the individual must follow the same course as the genesis of knowledge in the race." Thus we can see that this method of conservative self-government with the teacher as guide, is the straightest road to power. It is based upon natural and undisputable principles, and is only a continuation of outlet to the God-bestowed curiosity of mortals. The autocratic method at best creates a submissive frame of mind, but the submission of force degenerating into cowardice, whereas the restraint of the self-governed is self-control evolving morality and vigor. The world cries for emancipation. Why should it not begin in the minds of our future citizens and statesmen, the nation builders?—Education.

PRACTICAL HINTS.

TEACHING ARITHMETIC.

In a recent number of the *Journal of Education*, Frank A. Fitzpatrick criticises excessive drill in "the handling of numbers, figures, symbols a purely mechanical art done by machines, too long practice at which tends to produce arrested development. Thoroughness is not an attribute of child nature; accuracy is of still later development.

"The efforts of secondary schools to begin the study of physics with prolonged drill in accuracy and carefulness have, according to a recent report in the *Educational Review*, been largely responsible for lack of interest of said pupils in the further study of science. Reasonable accuracy in the fundamental operations in arithmetic can be readily gained by children. There is no advantage, however, in reaching a very high average in this accuracy. The problems in all the arithmetics now published have been greatly simplified. It is probable that the greatest difficulty the child encounters in concrete problems is his inability to read understandingly what is in the problem, and at this phase of his development he should proceed very slowly. 'Time is the soil in which thought grows.'"—The Teacher.

A TEST OF SKILL.

A teacher who can run a class by sidetracking and putting back every child who is out a few weeks, who doesn't catch on to the work, who is slow, who is careless, who blunders, isn't worth the oatmeal that starts off the day, not if her best scholars are "stars."

The question is not how fast a chauffeur can sprint his machine on a clear track, but how skilfully he can avoid obstacles, can get through a crowd, can get safely round a sharp corner. So the value of a teacher lies, not in what she can do with the boys and girls who are ready to steam ahead, but what she can do with those who are in the way of the speed of the class, who are slow, or disinterested.—*Journal of Education*.

WASTING TIME.

Teachers have frequently abused the caution to be thorough. Keeping at a thing is not thoroughness. Psychology and common sense have demonstrated that there is a point where the pursuit of a particular activity becomes fruitless. Technically it is known as the fatigue point. Disregard of it leads to listlessness, carelessness and superficiality. Hence it is the opposite of thoroughness. The teacher who trains pupils in habits of honesty and responsibility keeps within the limits marked by fatigue conditions.

If Dr. Rice is right in saying that fifteen minutes is a reasonable time allowance for spelling, the holding on to spelling for an hour at a time cannot be excused on the plea of thoroughness. There are more fitting words to characterize this waste.

In order that the pupils may do the best work they are able to do, the conditions must be right. An exhausted mind is not a responsible one.—School Journal.

MENSURATION.

Mensuration means the process of measuring anything. As used in connection with our arithmetic course, it means that part applied geometry which leads with measurement of lines, surfaces and volumes from given data. Theoretically, the subject belongs in the High School where geometry is taught, but as there are many who never reach the High School, and who yet need a knowledge of the rudiments of measuring geometrical figures, the subject is included with arithmetic. Our problem is to give the material to the pupil in a manner that is fairly scientific and yet easily understood.

The former method of teaching the subject by rule is used now by very few. More rational methods have been introduced. Probably the chief fault of the present teaching is that it is not concrete enough. In developing rules and explaining figures, many teachers are satisfied with drawing the figures on the blackboard. The subject can

be made more real and interesting by the use of wooden models. It can be made infinitely more so by having the pupils make the models themselves of paper or of some other substance easily cut. A class in crystallography in one of our colleges makes its models to illustrate various crystal forms by cutting potatoes into the required shapes. The potato is homely, but serviceable. The paper cutting might be objected to on the ground that it would prevent the giving of problems for that period, or that the scissors were scarce. Problems can be omitted once in a while without any great loss to the pupil, however, and the scissors ought to be there for this work as well as that of the drawing department.

Problems that are assigned should deal with real things, and, if possible, things near at hand. If the problem be on the length of a flag pole, use the pole in the school yard once in a while. Measure the room, the school yard, the street, the vacant lot nearby. Make the problems real, useful problems.

After a figure has been made and studied, and the explanation given, instead of the teacher's giving the rule, the pupil will be made stronger if he is first asked for the rule. If he has all the data, he should be able to deduce it for himself.

The various figures should be taken in a logical order. Thus the rectangle should be taken first. The triangle, as half a rectangle, would follow. Next would follow the circle considered as being made up of a greater number of triangles side by side. The solids would be developed in the same way. The cube and square prism should be followed by the triangular prism, and this by the many-sided prisms, including the cylinder. Other figures should be thus logically developed.

Formulas should be used throughout the subject, thus correlating the subject with algebra. Using the circle as an example, the pupil can understand that if a =area, c =circum., d =diam., and r =radius, then $c=2\pi r$ and $a=\pi r^2$. The pupil unquestionably understands it, but can he remember it? He should be able to. Words are only symbols of things, and after a few days' practice has taken away the strangeness, the letters are just as good symbols

for the lines, surfaces and volumes as the words are. Other formulas are developed in the same manner. If the figures are taken up as outlined previously, the same letter will be used over and over, so that the increasing number of formulas should result in clearer knowledge instead of confused memory. A number of classes in this city have used formulas in this work, and in almost every case the results were good.

Whenever possible, the figures should be grouped. Instead of studying each figure as entirely separate from all others, we can combine them under some special rule. Thus, area of base \times height = volume," refers to any figure of the prism family, including the cylinder. Other groupings can also be made.

With due observance of the above points, the subject of mensuration should take on a new interest for the pupil.—
The Teacher.

A LESSON IN GRAMMAR.

Pupils in upper grammar grades often have difficulty in getting a clear understanding of the combination of transitive and intransitive verbs, and the active and passive voice. The transitive verb in the active voice presents no difficulties and this point may be omitted here. The trouble comes in distinguishing between the transitive verb in the passive voice, and the intransitive verb. The following plan has been found helpful in aiding pupils to clear this matter up. At first transitive verbs only are used and the purpose is to teach pupils to distinguish clearly between the active and the passive voice.

Write on the blackboard a simple sentence containing a transitive verb in the active voice. For example.—

The teacher strikes the bell.

Explain that this is a transitive verb in the active voice, because the subject acts upon the object. Try to make the pupils see and feel that there is action by the subject, and that the action is exerted upon something. A simple demonstration will help to make this matter clear. Let the teacher strike with her hand without hitting anything. Show that there is action, but it is not exerted upon any-

thing, and therefore it is not a transitive verb. Then let the teacher strike the bell. Now, the action is exerted upon something, and the verb becomes transitive. In a transitive verb, two things are necessary; there must be action, and the action must be exerted upon something.

Now write on the blackboard:—

The bell is struck by the teacher.

Ask the pupils what the sentence means. Try to make the pupils see clearly that the sentence is exactly the same in meaning as the first sentence. The only difference is that the object that is struck becomes the subject, and the subject is acted upon. The subject is passive and receives the action. Hence, it is a transitive verb in the passive voice. The following form may now be used, and it should be written upon the blackboard.

The two sentences are exactly alike:—

1. In meaning.

The two sentences differ—

In voice only.

2. In having transitive verbs.

Leave the form upon the blackboard and apply it to many simple sentences. For example: write:—

Mary sings a song.

The song is sung by Mary.

The teacher asks, in which respects are these sentences alike?"

The pupils answer, "First, in meaning; Second, in having transitive verbs."

Then the teacher asks, "How do they differ?"

And the answer is, "In voice?"

This should be repeated many times until the pupils fully grasp the idea. It may seem mechanical, and perhaps rather simple to go over the form so many times, but if the work is done faithfully the result will be very satisfactory.

After a few lessons of this kind, the teacher may write the active form, and ask the pupils to give the passive form. Then the teacher may write the passive form and ask the pupils to write the active form. Constant repetition is the price of success. The pupils must have time to grow up to the full meaning of the subject. Do not think,

because the pupils answer the questions correctly the first time, that they fully understand the matter. At first the work of the pupils is more or less mechanical. A full comprehension of the relation between the two kinds of sentences can only come to development.

Now comes a real difficulty. The name of the person or thing that exerts the action is often omitted in the sentence that contains the passive voice. For example:—

The song was sung.

Try to turn the sentence around. There is nothing for a subject. The pupils must see that the name of the singer is omitted. The sentence may be written in the active voice:—

(Some one) sang the song.

Again—The house was built.

This becomes (Some one) built the house.

The ship has been driven on the rocks.

This becomes:—

(Something) had driven the ship on the rocks.

The pupils will readily see that a sentence containing an intransitive verb cannot be turned around. For example:—

The sun shines.

This cannot be put into the passive form because the action is not exerted upon anything, and there is no object, expressed or understood, that can be made into a subject to receive the action.—Selected.

SCHOOLROOM HINTS.

Special Day Programmes.

Every day is a good and special day, yet there are certain days which have a distinct and peculiar significance to the history of our country, to the upbuilding of our national life, that special programmes should be arranged for them and the patrons and other friends of education invited to attend the exercises. The meaning of the events which are thus suggested by the day will be kept memorable. When schools enter into the spirit of the needful observance of these days much good will come to the

community from the special work required to make them successful in import and effort. No harm can possibly come from the observance of Labor Day, Thanksgiving, Christmas, Victoria Day, Arbor Day, and others which might be mentioned. All of them have a lesson of their own which can be gotten only by special study.

Pictures.

Pictures should adorn the walls of every school-room. The three-fold purpose of pictures on the school-room walls is character-building, decoration and picture study. Every great picture has its story to tell of some ideal which will, when properly taught and understood, impress its lesson on the life of boys and girls and find expression in their character.

Not very many homes are without pictures. If they are necessary and good in the home they are much more so in the school-room. Ruskin says, "In the emptiest room the mind wanders most, for it gets restless like a bird for want of a perch, and casts about for any possible means of getting out and away. Bare walls are not a proper part of the means of education; blank plaster about and above is not suggestive to pupils." Some of the greatest lessons are learned casually and incidentally. May we not continue our interest and efforts in providing lessons in picture form for the delight and uplift of our young people?

School Libraries.

Libraries will aid pupils to read by supplying them with what they need to awaken and satisfy their interest; they assist in adding tone and breadth to the regular school work; they will guarantee a fund of general information and assist in showing the tendencies of pupils; they will insure the formation of a taste for good literature; they will build character; they will make a nation of readers and thinkers; they will point out wisdom's ways and those who have traveled them; they will cause us to lead lives of industry and righteousness.—Selected.

FOR THE PUPILS.

I will tell you in a few words how I came to be a teacher. My home lay remote from all traffic. Hard work in the field or in the house was the common lot. Yet we heard the waves of a higher intellectual life beating on a far-off shore, and the only one who could tell us of them was the teacher in a neighboring village. His appearance, modest enough in all truth, attracted our youthful minds. With all my thoughts thus concentrated, I stepped into the world. I was early advised to change, but my boy's ideals were too strong, and I remained. My aspirations became circumscribed, but I trusted to my good fortune. Had I come into contact with men of higher culture when young. I should certainly have found an easier and less costly way into another profession. And my case is, I believe, similar to that of many of my professional brethren. The school and the teacher were the first to awaken their intellectual powers. Ignorance of the world and a deep veneration for a strong personality, which pointed the way to a world rich in mentality, attracted many a boy's attention, and drew him into the teaching profession.—J. Tews, in *Die Deutsche Echule*.

HAND AND BRAIN.

Dr. Percy Nunn, at the Society of Arts, was doing good work in pointing out that the instincts of young children are towards constructional work, and in urging that hand-work should be part of the school curriculum at all ages. Careful investigations have shown that the development of the brain proceeds *pari passu* with the agility of the muscles. There seems to be no doubt that light is let into the brain of the feeble-minded by suitable exercises of the muscles. In public schools, where games and other outdoor activities play a large part in school life, it may be possible for a boy to be educated without much direct manual training in school hours; but children in town elementary schools have no such opportunities. For them at any rate, if not for the others, a curriculum planned on con-

structional work with the hands is essential. At the same meeting, Mrs. Burgwin said that her observations had taught her that children were destructional rather than constructional. The two points of view do not seem to us to be opposed. Children holding any object in their hands are inclined to break it to pieces from a desire for muscular activity; but this same desire is satisfied with even greater delight when they make things. They have to learn to make things, they can break them without teaching. The former activity is more useful, and therefore deserves to be taught.

EGYPT AND THE NILE.

Comprehensive Questioning.

No series of lessons in the study of seventh grade geography can be made so comprehensive, fruitful and interesting as those that may be given on Egypt and the Nile. From whatever point of interest we may start, whether it be the people of Egypt with their new and interesting conditions of life, or the mere black lines of a map, we find a broad field before us, than which there is none greater in the study of Africa and its different sections. There is no reason why a whole month or more might not be used in the study of this country, for it may include a review, interpretation, and use of the general facts of geography acquired in the previous grades, new geographical, historical and useful information, and a general cultural training.

In a series of lessons that were given several years in succession on this subject, the materials used were a large globe, political, historical and relief maps of Africa, a picture of a bird's-eye view of the Nile Valley (a Perry picture), Perry pictures, pictures from magazines and prospecti, Jules Guerin's colored drawings, stories from ancient history, a geographical reader, a good geography text-book, objects from Egypt of Egyptian design, Egyptian architecture in Philadelphia, and current events relating to the subject.

The method was simple and tried to be pedagogical. It consisted of definitely planned questions which lead to read-

ing of the map and use of the textbook and materials named. No information was dictated or given by the teacher, for the pupil was able to get it himself with help. The pupil brought in information from other sources even when unsolicited. In all, the knowledge was self-acquired. No attempt was made to test before all the material for the topic had been discussed in class. The questions attempted to lead from the known to the unknown, and, in general, from the simple to the complex. The information received was put into as organized a form as possible. It attempted to be a synthetic and inductive method first, followed closely by the analytic and deductive. Questions were repeated in as many ways as were found necessary, some simple, others more comprehensive. The pupil was not required to remember *all* the facts discussed in the lessons, but he was able to get them when he wanted them. The fact that he had a vivid experience of all the lessons, helped himself throughout, and knew the essentials, was thought worthy of all the teacher's efforts. He was made to observe, to use his imagination and to pick out his essentials. He was compelled to put his information to use in many ways. This made him understand and appreciate much more some of the things he had passed by without much thought or interest. He was led to appreciate his own country's social, industrial, commercial and political life by comparison. The general information he acquired enabled him to read literature on Egypt and related topics with some degree of understanding and pleasure.

The questions following are some of those used in oral and written work during these lessons. Not all were used in any one series of lessons. Different occasions and characteristics of the classes gave rise to new ones every time. The pupils themselves raised many questions which the teacher might have passed by, as, for instance, those with reference to the opera "Aida." One had heard the opera; another knew how to play the march, and still another had a sister who could sing several of the arias. The questions are suggestive of many more. They do not attempt to be exhaustive, nor are they all that were used.

Questions.

What is the longest river in Africa? What is its general direction?

What tributaries, if any, has it, and where? What names are given to its two branches? What is the source of each?

Through what zones does it pass? Through what countries does it pass? Through what kind of land does it flow? Why has the Nile few tributaries?

Between what meridians of longitude does it flow? Through how many degrees of latitude does it flow? What is its approximate length in miles, according to the map scale?

What is the general character of its stream? What is meant by a cataract? What causes these cataracts? How many has the Nile? What falls are there at its source? What influence have these cataracts upon the usefulness of the Nile? How beneficial? How detrimental? What is "Sudd?"

What is the character of its mouth? What is a delta? Why so called? Can you draw the Greek letter? What causes a delta? Whence and how does the river get its silt? Of what use could this silt be? Why is Egypt called the "Gift of the Nile?" Describe the feeding of the Nile? Why does the Nile River after flowing through thousands of miles of desert land make upper Egypt one of the most fertile sections in the world?

What kind of climate would you expect at its sources? What kind of seasons there? How many seasons? How would this effect the country? Why is Egypt a good winter resort for Americans?

What is meant by the Lower Nile? The Upper Nile? The Right Bank? The Left Bank? Up stream? Down stream?

How is the flow of water regulated by the seasons? How would you purpose to regulate the flow of water before the rainy season? During? After? Where have dams been built? How are they used? Describe the plans and purpose of the Nile dam at Assouan.

What is the height of land at each of its sources? What is the height of land at its mouth? What is the slope of the river?

Would the same amount of water reach its mouth as leaves its branches? If not, why not? Which holds water better, fertile soil or sand? What causes evaporation? Why does its channel diminish in size as it approaches the delta?

How may the land on its banks be fertilized? What methods of irrigation are in use? Where would they use canals? Dams? Pumps?

What is the character of its banks in the north? South? Central part?

Has the Nile any large windings? Where? Why? Results?

Of what uses is the Nile? What kind of a "water road" is it? What kind of a current has it? Could it be used to give water power? What kind of vegetable and animal life are there on its banks? What about its water supply? Food supply?

What is the size of its draining area? Where does it rain in the region of the Nile? Causes? What are the effects of melting snows and rain upon the rise of the river? When does it occur? What are the effects of continued drought upon the fall of the river? When? Why?

What do the pictured triangles on the map of the river represent? What ancient cities are on its banks? What ruins are along its banks? What important modern cities are on its banks? Where? How do you account for the location of Cairo? How do you account for the development of Alexandria into a city of importance?

What political countries have influence in Egypt? In what way?

What industries are carried on along the banks? On the Delta? In the cities? Locate the railroads. Why are they necessary? What effect have they upon the country? Why is the Nile said to be the "most important river in Africa?"

To what races do the inhabitants of Egypt belong? What is their manner of dress? Why do they dress this way? Describe one of their schools. What is their text book? Tell what you know of Mohammedanism. What other religions are present in Egypt? Describe the different classes of Egyptians. Describe some of their manners and customs; compare them with your own.

Compare the mouth of the Nile with that of the Amazon; the Mississippi; the Ganges, the La Plata; or the Danube.

Compare the basin of the Nile with that of the Danube, etc.

Compare the sources of the Nile with that of the Mississippi.

Compare its length with the largest rivers of all the other continents.

Compare the people of the Nile Valley with those of the Yang-tse-kiang, Ganges, Amazon, etc.

Why is the Niger of less importance than the Nile?

What is the difference in standard and local time between Philadelphia and Cairo? How would you travel from Philadelphia to Cairo?

What are the characteristics of Egyptian architecture? What buildings in our city are built in that style? What are the predominating units in Egyptian design? Describe the lotus, and compare it with other similar flowers? How does an Egyptian column differ from the Greek?

What is the story of Joseph? Tell some of the stories from Egyptian Mythology and History. In what way has Egypt been noted in Bible, Roman, Mohammedan and modern history? Tell about some great Egyptians of whom you have read.

Do a problem in fractions, Egyptian method. Tell what they knew of physiology and how. What were their methods of measuring land? How and where did they record history? What facts or what persons did they describe especially? Describe their writing their drawing and their colors.

What is the story of "Aida?" Describe the scenery from the opera. Play or sing some of the melodies from the opera.

What does modern civilization owe to Egypt?

How is Egypt important as a modern country? What things have you seen that have come from Egypt?

Describe a trip with a caravan from Cairo to Khartum. Describe the donkey ride through Cairo or Alexandria. Give an account of a trip on the "observation car" of the railroad in Egypt as far as it goes. Describe all the important experiences you would have on a trip up the Nile in December. Describe all you would see. Give a lecture on Egypt from the Perry picture you have. Write a letter describing Egyptian life. Draw an Egyptian design for a portfolio containing your pictures and notes.—*Joshua C. Menkin, George Sherwood School, in The Teacher.*

NOTICE TO SCHOOL BOARDS.

DEAR SIR:—There are in the present class of the School for Teachers at Macdonald College 160 students, of whom only 18 are from Montreal. Many of the students are anxious to teach in the rural schools of Quebec, and have made special preparation for such work.

There is difficulty in securing schools for these students, owing to the facts that advertisements are usually very brief and Commissioners are unable to have a personal interview with our students. In cases where School Boards desire teachers, it would be an advantage if the Commissioners or Inspectors would write the Dean of the School for Teachers of Macdonald College, stating the salary which they propose to pay, the number of pupils in attendance, the price of board and kind of boarding-house accommodation which would be available for the teacher, the nature of the school building, and any other information which would make it possible for our students to have an adequate idea of the situation. On the other hand, I should be glad to assist the Commissioners by giving them, confidentially, any information which may be of service to them, and which may properly be given concerning our students.

Yours very truly,

S. B. SINCLAIR,

Head of the School for Teachers.

Macdonald College, April, 1910.

FORESTRY BRANCH, DEPARTMENT OF THE INTERIOR.—PRESS BULLETIN NO. 9.

The Forestry Branch of the Department of the Interior has just issued its eighth bulletin, entitled "Forest Products of Canada, 1908." This gives the result of the first year's work by the Branch in the collection of statistics regarding the annual production in Canada of lumber, pulpwood, poles and other wood products. The figures have been compiled by Messrs. H. R. MacMillan and G. A. Gutches.

These statistics have been compiled from answers to circulars sent out by the Branch to manufacturers in the different wood-working industries. While it is not claimed that they are complete, yet the figures they give seem to be the most comprehensive yet published.

The work was new, both to the manufacturers and to the officials of the Forestry Branch, and mistakes have no doubt occurred in it. The work is to be continued, however, and increasing familiarity with the work, both on the part of the manufacturers and on that of the Branch will doubtless bring about greater accuracy and completeness in the returns.

The total value of the production of lumber, lath, shingles, cross-ties, poles and pulpwood during the year was \$67,425,044.

The production of sawn lumber is shown by the figures to be in the neighborhood of 3,348,176,000 feet, board measure, per annum, valued at \$54,338,036. In this, Ontario leads with a production of 1,294,794,000 feet, valued at \$24,398,077; Quebec being second with 690,135,000 feet, of the value of \$10,838,608, and British Columbia third, with 647,977,000 feet, worth \$9,107,186. The other provinces rank in the following order:—New Brunswick, 308,400,000 feet, valued at \$4,081,402; Nova Scotia, 216,825,000 feet, of the value of \$2,837,730; Saskatchewan, 91,166,000 feet, valued at \$1,576,820; Manitoba, 56,447,000 feet, value, \$867,969; Alberta, 41,382,000 feet, valued at \$593,244. The total production of wood pulp is 363,079 tons, made from 482,777 cords of wood and vauled at \$2,931,653.

Shingles.—British Columbia leads in the production of shingles, producing 724,652,000 of the value of \$1,391,306. Its nearest competitor is Quebec, which produced 406,440,000, valued at \$849,787, and then follow, in their order, Ontario, with a production of 223,533,000, valued at \$461,155; New Brunswick, 109,913,000, worth \$325,865; Nova Scotia making 33,141,000, valued at \$69,370; Manitoba turning out 1,125,000, worth \$3,150; and Saskatchewan, which produced 592,000, valued at \$1,363.

The total production for the Dominion was 1,499,396,000 shingles, the aggregate value of which was \$3,101,996.

Laths.—In the manufacture of laths, Ontario takes first

place, with 263,241,000 to her credit, valued at \$612,856. Little more than half that number, viz., 138,991,000, is made by her nearest competitor, New Brunswick, the value of whose product is \$286,088. Quebec made 92,914,000 laths, worth \$189,076; British Columbia, 86,862,000, worth \$208,255; Nova Scotia, 62,638,000, worth \$136,893; Saskatchewan, 18,477,000, valued at \$40,173; Manitoba, 7,370,000, at a value of \$10,200, and Alberta, 1,069,000, worth \$3,584.

The total number of laths manufactured was 671,562,000, of the value of \$1,487,125.

Railway Ties.—During the year the railways purchased 13,978,416 cross ties, for which they paid \$5,281,685. Of these the steam railways (47 in number, and having a total of 25,772 miles of track), bought 13,738,157, paying therefor \$5,189,674, and the electric roads (numbering 32 and having 818 miles of track) purchased 240,259 ties, costing \$92,011. Cedar (including under this term both the eastern and the western cedars, is easily the favorite wood for ties, twice as many ties being of this species as of any other, while hemlock and tamarack in about equal numbers take next place.

Poles Used.—Reports as to the poles purchased were received from 46 telegraph and telephone companies, 151 electric light, power and railway companies and 19 steam railways owning their pole lines. These represent 66,544 miles of line, supported by 2,433,245 poles. These companies bought a total of 185,807 poles, paying for these, at the point of purchase, 284,549. Of these 185,807 poles, 162,211 were of cedar, other woods used being tamarack, spruce and Douglas fir.

FRENCH HOLIDAY COURSES.

Time.—French Holiday Courses will be given at McGill University, Montreal, in July. They will extend over three weeks, beginning on Wednesday, July 6th, and ending on Tuesday, July 26th.

Object.—These courses are intended for Teachers of French and all persons desirous of perfecting their theoretical and practical knowledge of the language. What is particularly aimed at is that every student who enters on these courses with a fair preliminary knowledge of French should, by the end of the three weeks, be able not only to understand French, but also to express himself in that language with some degree of facility.

These courses are not meant for persons possessing no knowledge of French.

Method.—Their object is attained by means of lectures and practical lessons, the French Boarding Department, excursions and sightseeing under the guidance of French speaking persons, and evening entertainments. The students will thus have an opportunity of hearing or speaking French from 7.30 a.m. to 10 p.m.

Tuition.—The Lecture Courses are divided into Elementary and Advanced.

In the Elementary Section the subjects of instruction will be: Reading and Explanation of a French Text, Mlle. Miron; Composition, M. J. L. Morin; Conversation, Mme. Demole; Phonetics, Dr. H. Walter. The teaching in this Section will be as much as possible in French.

In the Advanced Section the subjects of instruction will be: French Literature: (a) Voltaire et son temps, (b) Réalisme et Naturalisme dans la Littérature Française, M. H. Lebeau, professeur agrégé de l'Université de France; Reading and Explanation of an advanced French Text, Dr. P. Villard; Composition, M. J. L. Morin; Elocution, M. P. Colonnier; Histoire de l'Art Français, M. J. B. Lagacé; La France Modern, M. Marc Sauvalle; Phonetic (12 lectures with practical exercises), D. H. Walter. The teaching in this Section will be carried on entirely in French.

The above lectures and lessons, elementary, as well as advanced, will be given in the morning. In the afternoon the students will, three times a week, be divided into groups, each under the charge of a French speaking person, for the purpose of conversation in the grounds of McGill University or on Mount Royal.

Three afternoons a week will be devoted to sightseeing (the University Buildings, including the Museum, and important factories in the town) under the guidance of a

French speaking specialist. Professor Lagace will give a number of "Causeries Artistique" in connection with visits to the Picture Gallery, and such private art collections as may be thrown open to our students by the owners.

Three times a week social evenings, recitations, lectures on French life, art, etc., will be given. On the remaining evening the reading room of the library will be open for the purpose of study; and a conversation room, in charge of Mlle. Amaron, will be placed at the disposal of the students. Professor Bieler will give a series of illustrated evening lectures.

Board and Residence.—The Board Department will be in the Royal Victoria College in the immediate vicinity of the University, and under the superintendence of French speaking persons. The object is to intensify the French atmosphere it is sought to create, and also to cheapen the cost of living to the students. In order that the first of these objects may not be defeated, and in the interest of those anxious to make progress, all boarders will have to pledge themselves to use the French language on all occasions; and it must be clearly understood that any boarder who persists in disregarding his pledge will have to discontinue residence.

Examination.—At the end of the three weeks' courses an examination (optional) will be held and certificates will be awarded to successful candidates. This examination will consist of a three hours' written examination and an oral test (in French) of about a quarter of an hour.

Fees.—Tickets entitling the holder to attend all the lecture courses, sightseeing, walks with conversation groups and evening entertainments during the three weeks, \$10.00.

The boarding fee (including rent of room), will be \$7.00 per week.

Students wishing to become boarders should make application by Tuesday, June 28th, enclosing a deposit of \$1.00, which will be returned to them on arrival.

Books.—A list of books required and the time table is now ready and will be forwarded on application.

All correspondence to be addressed to,

PROFESSOR H. WALTER,
Department of Modern Languages,
McGill University, Montreal.

REPORT OF INSPECTOR J. W. McOUAT FOR THE
YEAR 1908-1909.

LACHUTE, QUE., 28th July, 1909.

SIR:—I have the honour to submit my annual report for the year 1908-1909.

The regular bulletin of inspection has been forwarded to the Department for each municipality that had schools open during the year. I shall first speak of the rural schools, and enumerate those facts regarding them that are of general interest.

The regular work of the year began with the annual conferences in the months of September and October. These were well attended and generally satisfactory, yet I consider better results would be obtained, if a preliminary visit were made to each school in the early autumn at the time of the conferences. While the conferences do for general work, a particular visit to each school would give the Inspector an opportunity to help the individual teacher. These preliminary visits should be considerably shorter than the regular visits of inspection, but should vary in length according to circumstances. That is, more time should be spent in a school where a new teacher was at work, than in one where an experienced and successful teacher had charge. The chief purpose of such visits would be viz.—

- (a) To inspect the premises for winter.
- (b) To inquire into the provisions for caretaking and heating the building.
- (c) To examine the time-table, registers, classification, and methods of instruction.
- (d) To inquire into the modes of discipline.
- (e) To see that only authorized text-books are used.
- (f) To teach model lessons in such subjects as he found most deficient.
- (g) To report his observations to the School Board and the Department.

These observations and others in detail could be briefly reported on a special form prepared for the purpose.

The conferences have done much good and are much appreciated by the teachers, yet I have always considered that

a preliminary visit a necessary complement of the conference and so recommended in my earlier report.

In addition to my own reports on the school work sent to the Department and to the School Boards, I have given to each teacher a copy of my notes on her own school. These reports to the teacher are productive of much good and are a great satisfaction to the teacher and her pupils. Those teachers, who have been most successful during the past year and are recommended for a bonus, are as follows:—

TEACHERS	Per Cent	LOCALITIES
Etta McBride	95	
*Janet Morin	94.5	St. Eustache.
Millie McGibbon	94.5	Maisonneuve.
Jennie Arthurs	94	Grenville No. 3.
Margaret Pollock	92.5	St. Jerusalem No. 1.
Christina McIntyre	92	St. Jerusalem No. 4.
Agnes McGandel	92	Pointe Fortune.
Ethel McCallum	92	Ste. Therese.
Lorne McCallum	91.5	Shawbridge.
*Mary Chambers	91.5	Chatham No. 1.
E. M. Burns	91	Harrington No. 1.
Elizabeth Patterson	91	Maisonneuve.
Edna Higgins	90.5	Longue Pointe.
Margaret Smith	90.5	Chatham No. 1.
Isabella Rogers	90	Wentworth No. 3.
Gladys Tomalty	90	Gore No. 2.
Mary Cowan	90	Montcalm.
Sarah Pollock	90	St. Jerusalem No. 3.
Ethel McKell	90	Mt. Royal Vale.
Helen Thornber	90	Bordeau.
Margaret Coke	90	Bluebonnets.
Catherine McGibbon	90	Chatham No. 1.

(*Those marked with a star were granted a bonus last year and are only eligible for a certificate this year.)

The following teachers have done good work and are entitled to honorable mention as having taken 85 per cent. to 89 per cent.—

1. Edith Body, Nelly Berry, Amy Copeland, Fannie Clarke, Amy Hammond and Hattie Hutton, 89 per cent.

2. Jessie Alexander, Mary Armstrong, Eva Walker, Harriet McGarry, Fanny French, Helen Young and Pansy Standish, 88 per cent.

3. Eva Blashford, 87 per cent.

4. Grace McDonald, Jane McVicar, Emma Rix and Alice Smith, 86 per cent.

5. Louise Dawson, Ethel Keys and Jessie McLean, 85 per cent.

During the past year 29 persons, holding the following non-professional qualifications, taught on permission:—

Associate in Arts	6
Academy II.	3
Academy I.	9
Model III.	5
Model II.	2
Public school	4
	—
Total on permission	29

In each case the permission of the Superintendent was secured and the action of the School Board endorsed by the Department. It may be interesting to note that several of the 29 teachers on permits have a place among those who receive honorable mention. Very few take advantage of the regulation for an elementary diploma from grade II. Academy after two years' teaching. At present I know of none, yet all have been made aware of the regulation.

The average salary for the rural schools is \$23.28, which is rather less than last year, but the difference is due to the opening of a few schools at very low salaries. The average school fee is 25 cents and the average rate of taxation is 66 cents per \$100.00 of valuation. This rate varies from \$2.00 to 4 cents per \$100.00.

The census returns of the Secretary-Treasurers give 3,321 pupils in the municipalities, while the school rolls contain 2,538 and the average daily attendance amounts to 1,719, or 70 per cent of those enrolled. The average progress made by the teaching staff is 79.5 per cent., and it can be truly said that the teachers have been patient and faithful in the performance of their work.

The prizes to the progressive municipalities for the past year have been sent out with the usual letter of instructions as to the method of expenditure. For this year I recommend the following municipalities, viz.: Mille Isles No. 2, \$60.00; St. Andrews, \$50.00; Grenville No. 2, \$40.00; Pointe Fortune, \$35.00; Belle Riviere, \$30.00.

The length of service bonus to teachers is of much assistance to several who are dependent on their earnings for their maintenance. The change in the pension act also has been welcomed by many discouraged and aged lady teachers, who see in the new law more helpful provisions for their retirement. Anything that cheers and encourages the teacher, will result in better conditions for the school, hence the beneficent influence of a competent pension or retiring allowance.

During the past year new schools were opened at Laprairie, Bluebonnets, Kensington and Amherst Park, near Montreal, and at Mabel, in Argenteuil. Two new schools are to open next year at Emardville and Cartierville, near Montreal. New school buildings have been built this year at Harrington No. 1, Grenville No. 1, Mille Isles No. 2, Chatham No. 1; in Argenteuil County, and at Ste. Agathe, St. Laurent and Amherst Park, while Lachine and Cote St. Paul are building new schools for occupation in September next.

The subject of Health and Temperance has been taught in nearly all the schools, and lessons given to the whole school were such as all could understand and apply to their course of life.

Many Boards fail to visit their school for want of time or from a feeling of diffidence. However, they are always ready to uphold their schools in the matter of material support.

On the whole much solid progress has been made and good educational work has been done in the rural municipalities of this inspectorate. The various grants from the government have done much to encourage the public and to secure the educational improvements that have taken place, but in recent years much interest has been aroused by our representatives on the Protestant committee and in the Legislature. In many schools I find the record of a visit from Mr. G. J. Walker, and the teachers inform me that the Hon. Mr. Weir never passes their schools without making them a call. These visits, though brief, are sincere and to the point, and always arouse an interest and create a hopefulness in the little community. It would be a good thing if other visitors, especially the clergy, would also make an occasional friendly visit to the schools.

In Montreal the school population increases faster than accommodation can be provided for it. Last autumn two fine, new fire-proof buildings were opened, viz.: the "Earl Grey" and the "William Lunn," with spacious accommodation, while another new school is to be built to take the place of the present Royal Arthur. The classes are large, and in several schools many pupils of foreign birth fill up the rolls, yet the readiness of the pupils to study and the ability of the teachers to teach crowns their united efforts with success and good results are secured.

Westmount has a school population of 2,394 children, for whom the very best accommodation has been provided. Three fine elementary schools, "Kings," "Queens," and "Roslyn," provide for the pupils in the newer parts of the city, while the academy provides for elementary pupils and higher classes as well. These school are fully equipped and well taught by a competent and painstaking staff, who have been very successful in the year's work, both in inspection and examination. On the whole Westmount conditions as a school municipality are ideal in all respects.

In St. Henry there is one school and a school population of 779 children. The school, though large at the time it was built, is now somewhat crowded in its junior classes, and the question of "more room" has soon to be considered. These pupils and teachers, under the able direction of Mr. James Mabon, do good work and maintain the reputation of former years.

There has been remarkable growth in school population in and near Montreal, as the subjoined statements will show: —

SCHOOL	1892		1909	
	Pupils	Staff	Pupils	Staff
Dufferin	419	11	1,683	38
Aberdeen	616	12	1,798	46
Mont-Royal	326	5	1,685	52
Totals	1,361	28	5,166	126

Other schools have increased in the suburbs from elementary to model schools, such as Fairmount, Outremont, Verdun, Longueuil and Montreal West, and entirely new schools have come into existence, such as "Earl Grey," Amherst Park, Delorimier, and "King's," Queen's" and "Roslyn," in Westmount. The round figures for Montreal's increase would give about 4,000 pupils in the same period. This growth has meant much improvement in school buildings and equipment.

In the city schools I spent one month visiting each class and 302 teachers. I was assisted very much by the kind cooperation of the Secretaries, Messrs. H. J. Silver, E. W. T. Raddon and Thomas Fleming, and by the various principals in the work of inspection. In the rural schools also every assistance was afforded me by the teachers and the school officials in the performance of my work.

REPORTS OF EXAMINERS.

GEOMETRY.

Grade II. Academy.

This paper of six questions was not difficult either to pass on, or to complete within the allotted time. There were two candidates, one each from Huntingdon and Granby Academies, who obtained full marks, and, as a rule, those who passed, got high marks. Of the 24 Academies which sent up pupils in this subject, 10 had no failures, and 8 had one each. Out of the 163 candidates, 41 failed and 29 of these failures came from four schools. With these exceptions, the answering of the pupils was much better than last year, both in respect to matter and form.

From the Model schools the papers were not so good, there being 14 failures out of 29 pupils.

The principal criticisms are that the writing in many schools was bad, the figures were poorly drawn, and the citation of propositions was neglected.

Question 1 was not generally answered very accurately, especially the last two parts. Question 2 presented no difficulty, except in the case of the last part, which was not care-

fully done, as was demanded by the question. In question 3, first part, the figure was poorly drawn. The second part was answered by most pupils. In question 4 quite a number failed to do the construction correctly. The construction and the proving of the figures about the diagonal to be squares were the chief difficulties in the fifth question. The last part of question 6 was successfully answered by most pupils.

Geometry, Grade I. Academy.

There were 275 pupils from the Academies who wrote on this subject, 74 more than last year. The papers from most of the schools were good as regards matter. One pupil, from St. Francis, obtained full marks. There were 70 failures, 33 of which came from six institutions. The papers might be criticized in a general way by saying that the writing in many cases might be better; the drawing of the figures was faulty and no attention was paid to the form as laid down in the text-book by many pupils.

From the Model schools there were 141 candidates, 59 of whom failed. Evidently geometry does not receive the attention it ought in some sections, for out of 40 pupils presented by eight of the schools, only 31 passed. From the answers received it is manifest that some teachers have not had any tests during the year. Unless some time and attention can be given, it would be more profitable not to attempt the study of Euclid.

Very few obtained full marks for question 1. The definitions were not very accurately given, especially of a plane surface and of a parallelogram. As to what coincide meant, many either did not know, or were not able to express themselves accurately.

Question 3 was well answered. A few could not enunciate proposition VI., and some did not know the meaning of the terms Hypothesis and conclusion. The construction and drawing in question 3 were, in many cases, not well done. In question 4 many failed to get the construction right, and some to complete the proof. The same difficulty was experienced in question 6. The drawings also were crude and imperfect. While most pupils tried question 5, a great many failed to get marks for it. Their answers showed that geometry was not understood.

Mensuration, Grade II. Academy.

The papers were good, there being three pupils who obtained a perfect mark. The number of papers examined was 89, 17 of which failed to reach the pass mark. There were no failures from 10 schools, and 14 of the failures came from four Academies.

The questions, which were all taken from the text-book, call for no special comment. Most pupils did the first four correctly. The last two, which involved the use of complicated formulæ, were answered by few candidates.

SUPERIOR SCHOOL EXAMINATIONS.

Geometry Grade II. Academy.

1. Define an axiom. What are the necessary characteristics of an Axiom? What objections are there to Euclid's 12th axiom? Explain the term *coincide* with reference to lines and angles. 15

2. Define Theorem. Enunciate proposition 6 and divide the enunciation into two parts—Hypothesis and Conclusion. Explain carefully why Proposition 6 is said to be the converse of Proposition 5. 15

3. (a) To draw a straight line perpendicular to a given straight line of unlimited length, from a given point without it. (b) Show that this line is the least that can be drawn from the given point to the line. 15

4. (a) If a side of a triangle be produced, then the exterior angle shall be equal to the sum of the two interior opposite angles; also the three interior angles of a triangle are together equal to two right angles. (b) Give four important inferences that may be drawn from this proposition. 15

5. If a straight line is divided into any two parts, the square on the whole line is equal to the sum of the squares on the two parts together with twice the rectangle contained by the two parts. 20

(Pupils will choose either a or b, not both.)

(a) ABC is an isosceles triangle, AB and AC being each 10 inches and the base BC 13 inches. D divides the base into 9 and 4 inches. Determine the length of AD.

Or

(b) In AC, a diagonal of the parallelogram ABCD, any point X is taken, and XB, XD are drawn; shew that the triangle BAX is equal to the triangle DAX. 20

Geometry Grade I. Academy.

1. (a) Distinguish between a line and a straight line; a surface and a plane surface; an obtuse angle and an acute angle; a rectangle and a parallelogram. (b) What are the necessary characteristics of an axiom? (c) Explain the term *coincide* with reference to lines and angles. 20

2. Define Theorem. Enunciate Proposition 6, and divide the enunciation into two parts—Hypothesis and Conclusion. 15

3. To bisect a given rectilinear angle, that is, to divide it into two equal parts. 15

4. If one side of a triangle be produced, then the exterior angle shall be greater than either of the interior opposite angles. 15

5. ABC is an equilateral triangle, P and Q are the middle points of AB and AC. If BQ and PC intersect in O, show that the triangle B.O.C is isosceles.

6. At a given point in a given straight line, to make an angle equal to a given rectilinear angle. 15

Mensuration Grade II. Academy.

1. In the triangle ABC, if $a=14$ feet, $b=15$ feet, $c=13$ feet; find the length of the perpendicular from A on BC. 15
2. A circular plate of metal, whose diameter is 13 inches, is enclosed in a wooden frame of uniform width. If the width of the frame is 1 inch, find its area to the nearest hundredth of a square inch.
3. The cost of polishing* the vertical surface of a granite column is £5 4s., this being at the rate of 1s. 4d. per square foot. If the cross-section of the column is a regular nonagon on a side of 8 inches, find its height? 15
4. Find the approximate cost of boring a semi-cylindrical tunnel 30 feet in diameter and 88 yards in length, at the rate of \$3.90 for every cubic yard excavated.
5. If ice loses 7 per cent, of its volume on being melted, find how many gallons of water could be obtained from a sphere of ice 18 inches in diameter, supposing that cubic foot contains $6\frac{1}{4}$ gallons. 20
6. A sphere of diameter 34 inches is cut through by a plane drawn 8 inches from the centre; find the ratio of the volumes of the two segments. 20

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