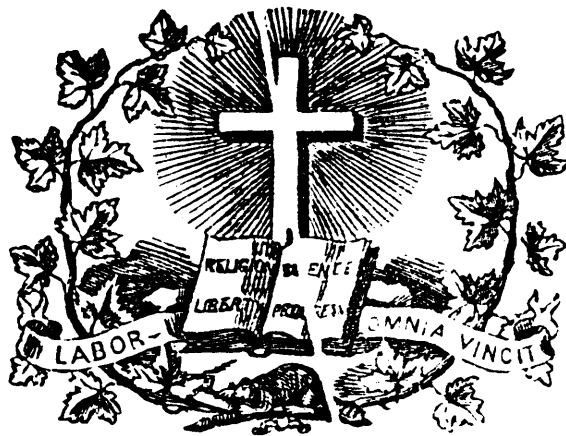


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EDUCATION.

Study.

Few things are so important in a race as a good start, with a full perception of the distance to be run. Striking the right key is essential to harmony. Let us endeavour to make a good start by setting forth to our minds the characteristic of the race to which our subject invites us. Let us, at the outset, strike the right note. By study is meant *work*—brain work—yet real downright work. To study is to bend all the energies of the mind to the attainment of knowledge; it is to put forth all its powers in the pursuit of truth. The habit of study is the practice of being thus engaged whenever the mind is not occupied by those engagements which enter into the ordinary routine of life. By a student is understood, either one who is acquiring this habit, or in a fuller sense, one who has acquired it. The habit is not a natural one any more than is a taste for vinegar, or a liking for tobacco. In forming the habit the natural repugnance of the mind to intense and sustained exertion has to be overcome, and the habit cannot be acquired but at the expense of much labour, and as the result of a strong and determined will. For the mind has inertia like matter, that is, it opposes resistance to a change of condition. It dislikes being disturbed, and it requires a strong force to get it to move, and to keep it moving. 'Tis true that activity, incessant activity, is one of the characteristics of mind. Mind would cease to be mind, the moment it ceased to be active; yet, to the direction of all that activity into one channel, to the continuance of it for a length of time in one direction, to the bending of its energies, and to the controlling of its laws by a determined will, the mind offers more or less resistance. Although perhaps it would be nearer the truth to say, that the resistance is in the mind's servant, the brain, rather than in the mind itself,—the brain, without whose instrumentality the mind in our present state does no conscious work.

In setting forth work as the prime feature of study, and in contending that the mind requires pressure to engage therein, it is well, nevertheless, to remember that pleasure is the invariable concomitant of this work, and is one of its most frequent rewards. Nay, we may go further, and maintain that—always excepting

communion with God—the pleasure of a human being as such is in the exercise of his mind, and that the more mind is mind, the more is joy the condition of its existence. And not only is pleasure thus the invariable attendant on mental exertion, but some of the highest and most exquisite enjoyments are amongst its most frequent rewards. Let me refer you to three facts illustrative of my meaning. Can you doubt the ecstatic state of Archimedes when he jumped from the bath and ran home, oblivious of his nudity, crying Eureka? Or is it to be doubted that Franklin felt something of the same kind when he identified lightning with electricity, and when his friends had to force him away from his experiment lest the fluid should strike its devotee to the ground? And must we not say that Kepler was thrilled with joy and with awe, when, establishing the truth of his conceptions his celebrated laws, by rigid mathematical demonstration, he exclaimed, ‘O God, I think thy thoughts after thee!’

Some young men, especially if they possess a little more than ordinary ability, take up the notion that minds of genius—as it is called—have no need to work as ordinary men have; and, carried away by this notion, they do not work, lest forsooth their friends should give them no credit for genius. But a greater mistake was never made than to think that any mind can grow, or become great, or possess the use of its powers, without work. For while the fact is undoubted that some minds have greater native vigour than others, and while it is also undoubted that some are superior to others, not because of any inherent difference of mind, but because of the difference in the weight, that is the quantity, or in the quality of their brain, or both; it is still more undoubted, by all whose opinions on the subject are worth anything, that no mind, however great its power, or however high the eminence it attained, ever reached this eminence at a bound, or ever possessed the use of its powers without arduous labour. No doubt there have been cases in which men have suddenly burst upon the world, in a blaze of brilliant dazzling light; but though sudden to the world, the secret history of such men has invariably disclosed the fact that the fire had been long kindling, and the combustibles long in gathering. Do not then, ye young men, fritter away the morning of your life, or waste your opportunities, from supposing that you can ever attain anything worth possessing without habits of study, or these without arduous and incessant work.

We shall get a clearer conception of our subject if we set forth to our minds the design of study, that is, what are the ends it should attain. So far as we have got the conception that it is work, we have made an advance; still the notion is but vague. For there is much work that cannot be distinguished as study because worthless, and there are workers who are nevertheless but laborious triflers. The primitive meaning of study is to pursue, and as to pursue implies an object of pursuit, the very term involves that to study is to set before the mind some object and steadily pursue it. If, again, we look at the conventional or current use we shall find that it embodies this primary fact. To study, in common parlance, is to apply the mind to some subject till it is mastered. It is to examine and con in order to learn, and it is also to convince ourselves by investigation and thought of the truth or falsehood of any subject to which we apply ourselves. But if we were to rest here we should still have but obscure notions of our subject. Let us then more minutely examine it, so as to be able to answer what we mean by study, and what is the character of a student. Now this, it strikes one, will appear from considering its four-fold design.

The lowest aim of study is by the application of attention and memory to furnish the mind with knowledge, and with the materials of a higher culture. By attention is meant the withdrawing of the mind from other things to the one thing it is intended to learn. In learning this thing, whatever it may be, there will be employed various faculties of the mind, or, if it please you better, the mind will engage in several distinct operations. Now, attention is simply the condition of the faculty at the moment of its exercise. In other words, it is to say that the faculty is doing its

work at the moment. The next moment some other faculty may be required, and if it is forthcoming at the right moment in its right order, then we say that it too is in the state of attention, and if this goes on consecutively and completely to the end, then we say that the mind has been in the state of attention. When a subject has been thus acquired, it is the office of the memory to retain it, and to have it forthcoming whenever required. Now, in such an act of study as this, the test that we apply to its value is the amount of knowledge that has been acquired. It is true that such a continuance of effort secures to the mind itself a certain advantage, but it is not this advantage that is the aim, but the possession of knowledge. And this we regard as the lowest result of study.

A higher design, with a corresponding result, of true study, is the discipline of the mind itself. Such discipline when complete includes three things.

The first mark of a disciplined mind is the mastery it has of its several powers. These powers are entirely under the control of the will, and they can be bent at any time to any work, and for any length of time, as far as physical conditions will admit. They are also so under control that a subject of thought can be taken up and pursued day by day, for months together, each day commencing at the point of suspension of the preceding day. The second mark of a disciplined mind is the condition of the faculties themselves. Each has been rendered more acute, each has been endued with greater vigour. There has been nothing one-sided in its development, but the mind can not only control its operations, but can strenuously exert its several powers. The third mark of a disciplined mind is its power of original thinking. The mind generally is occupied with the labours of other minds, a very valuable thing truly, but that mind gives up its birthright that yields itself solely to this, and does not itself exercise an originating or creative power.

Now this design of study is more important both in its nature and results than the former. Not that you can accomplish it without the former, nor can you secure the former without, to some extent, securing the latter. Still, of two students, the one who measures his progress by ascertainable results, that is, by the knowledge he possesses, is not such a student, and has not as valuable an estate as he who measures it by what he can do. Two persons may go through the same amount of muscular exertion in a day, one in breaking stones, and the other in well-directed gymnastics. But they are not in the same state at the end of the day. 'Tis true, the one can point to a heap of stones, though that is not all the result, only that which is measurable, and the other cannot. But can any one doubt that for the purpose of life, activity, vigour, and command of his limbs, the latter is the better of the two?

Another design of study is to give a right tone and direction to the ordinary current of thought and feeling, and to make the mind the master and not the servant of the brain. This design is really involved in the other two, but it requires a distinct notice because of its importance. At Greenwich Observatory there is a table on which is placed some prepared paper, and this paper is under the point of an instrument, which by its ever-varying motion, records the direction and force of the magnetic current of the earth for every instant of time. Now, suppose that a similar process could be applied to mind. Suppose that an infallible transcript could be made of the varying currents of idea and sentiment and thought and feeling which ordinarily occupy a mind not under the control of a vigorous will, nor endued with habits of study. What a poor, paltry, meagre, contemptible condition it would depict! Or, to change the illustration, suppose that by some mode of mental photography every successive phase of the mind could be pictured, what poor shrivelled pigmies would most men be found! ‘Doth any man doubt,’ says the father of modern science, ‘that if there were taken out of men’s minds vain opinions, flattering hopes, false valuations, imaginations as one would, and the like, but it would leave the minds of a number of men poor shrunken things?’

The highest result of study is to place the mind under law, and to set it free—under the law of wise, constant, and ennobling thought—free from all that is debasing and grovelling in association and habits. Our fathers well understood this value of study by calling their schools 'free;' not because they had no fees to pay, but because they had learned that learning, study, and education alone make men free.

Papers for the Schoolmaster.

Essay on Teaching Reading, Writing and Arithmetic.

READING.

Words are already familiar to the child. Before he comes to school he has learned a considerable portion of his mother tongue; chiefly names of surrounding objects and their qualities, and is able to form little sentences to express his wants and actions. Learning to read is, therefore, learning to recognise in signs, words already known to the ear in spoken language. From this view it follows, sense should all through accompany forms and sounds.

The organs of voice must first be made to utter correctly elementary sounds: this we have already assumed to have been done at home by the child's parents. If they have failed to do this fully, conversational lessons are necessary, for the teacher to correct any errors of utterance that may occur. The earliest lessons should be about familiar objects and actions; and the words, of a class with those he is acquainted with. A picture of some familiar animal may be presented to the eye and short sentences formed about it. The lessons ought to be composed of sentences, as they convey a sense which he is to comprehend, and with which he is to be made familiar. A good plan is to talk of the 'cow,' or whatever may be the subject of the lesson in the easy language of childhood, calling his attention to any words new to him.

ALPHABET OR SIGNS.—As the signs are reducible to a few elements, it seems more rational to teach these elements or letters, than to try to make the eye familiar with each word as a distinctive picture, as in the 'Look-and-Say,' or 'Reading-without-Spelling' system. In teaching the letters the writing of them on a slate should go hand in hand.

The plan of teaching the letters in groups seems to be the best, as in our First Book; but some would recommend the groups to be chosen from those letters formed of the same elements; as b, d, p, q; m, n; v, w. The objection to this plan is, that they do not form words and short sentences so easily. A box of letter cards for the formation of words at this stage is most useful.

READING.—Tablet lessons are required, or a primer with somewhat larger type than that used in our First Book. A few words only in each lesson. Those formed of two letters are generally the first used, as the eye can the more readily take in the two characters or signs at one look. This, in point of fact, seems the first great difficulty with beginners in reading. The eye is engaged with each separate letter, and is not yet sufficiently trained to adapt its view, or extend its sphere of vision to a whole word. After the eye is familiar with words, the same extension of sight is required for parts of sentences. When these two difficulties are overcome the mechanical part of reading is accomplished.

In giving the earlier lessons the teacher points to the letters of each little word, the pupils spell individually, or, in the case of a larger class, simultaneously; the teacher pronouncing the words for them—such as, we, go, up. Then he points to each word till the pupils read it without spelling. When they can read the sentences as they stand, he points to the words in another order, which tests the pupil's knowledge of the words, and prevents reading by rote. It is better in selecting the words promiscuously to form little sentences, than to read them without sense in

detached order. This test is given to find out if the pupils are reading by rote, but does not in itself make an examination in a reading lesson; as there is a sequence in the arrangements of the words of any language which aids the eye in following the words, and which should not be constantly violated.

After a little time, sentences may be introduced, printed in smaller type. New words may be brought in which rhyme together. Children are very fond of rhyming words together, as we may conclude from the favourite nonsense of the nursery which children delight in, and this disposition may be taken advantage of—at, pat, bat, fat; dog, bog, &c. One evil must be avoided at this stage, which is, the tendency to go on spelling even words which children know. They should be broken off this habit as soon as possible for it fosters a contraction of view which, as already observed, is to be carefully avoided. Spelling being for the most part a habit of the eye, it follows from reading, and does not precede it: the learning of the letters of a word from the commencement, helping rather the eye in its view of the letters in the whole word, and so, making a picture distinct in its outline to the vision, than as a means of learning to spell; which, as before stated, is the result of extensive reading. The attention of the class is again and again fixed on the new words. The black-board may be called in as a powerful auxiliary in teaching elementary reading. New sentences are made out of each lesson, by a new arrangement of its words.

The pupil at the next stage commences to read. He now has more words under his eye at once, and attention must be sustained. He is now carefully watched. This is the critical time. He moves from word to word in as quick succession as possible, and by degrees, accustoms his eye to catch two or more words together at one view. The book should be read over several times till small sentences are read with some degree of rapidity. A more advanced book then follows, not leading too rapidly into difficulties. This may be accomplished at the end of a year, if the pupil is diligent and attentive, and he may now be said to have learned to read.

The teacher may be here reminded that no system, even the most perfect, will be successful if he is not kind and sympathetic with childhood, and even the worst system may succeed, where the teacher's ready will determines on success. Children require tact in dealing with them; and here we may remark, that female teachers are in general more successful in dealing with the young, at least so far as the elementary branches are concerned.

GOOD READING next follows. It is generally defined as *distinct* which has reference to the sounds of consonants that end the majority of English words; *pure*, referring to the vowel sounds: *correct in accent*, which is giving the syllables of a word their relative force; *emphatic*, for contrasted words; and *slow*; for the last there is no rule. One man reads slowly, yet well; another much faster, yet clear and distinct. Temperament seems to have a good deal to do with this. *Modulation* is natural to us, as when pained, surprised or alarmed. There are many varieties of tone in the human voice, suited to every subject we speak of, grave or gay; to every command given, or question asked, there is an appropriate tone; and yet, how rarely do we hear this variety in reading, or in fact, any near approach to it. *Fluency* proceeds from familiarity of the eye with the words, and the mind with the sense intended to be conveyed, and results from *practice*.

INTELLIGENT READING.—The best general rule seems to be the familiar one, "Understand what you read, and read it as if you understood it." The language of books is strange and unintelligible to young people. They read words which they seldom or ever hear used, and whose application is to them indistinct and misty. To remedy this, and to introduce the higher class of words, not in common use, but forming a large part of book literature, conversation on the subject of a new lesson previous to its being read, will be found very useful. The parsing and analysis will also help, as pointing out where pauses should intervene, although no stops are marked. From this it

follows that reading should be last after explanation and interrogation on the subject matter. *Purity of utterance.* Provincialisms are difficult of removal and are best eradicated by attention to the pupil's speech, and by a careful supervision in the earlier lessons. *Indistinctness* may be considerably checked by teaching them to use the teeth, lips, and tongue, and not slur the sounds together. Modulation is taught with much difficulty to the usual class of children attending our national schools. Social circumstances are against them, and home influences, which are to the higher classes elevating, often undo the teacher's work. The conversation engaged in at home confirms them in local sounds and incorrectnesses, which it is the labour of the teachers to eradicate. Good reading is the result of imitation after mechanical difficulties have been overcome. Good speech and good reading are indissolubly connected. The teacher must use a good style of speech himself. When he is a distinct speaker the whole school is influenced by it. He reads a passage to show how it should be read. The pupils observe his modulations and imitate him: this is both pleasant and profitable. Practice alone, although it enables the eye to follow the words with rapidity, will not make good readers, and may only confirm a bad style instead of forming a good one. Continuous reading is necessary: not merely short passages. Reading is required to be a *distinct* lesson. Our present reading books give great variety, especially in poetry. Some teachers would recognise a greater number of stages in progress, and recommend more graduation. Our fourth book is considered difficult by some, but when we remember that the great majority of our scholars do not go beyond this book, it is well to introduce them to the average style of composition to be found in our newspapers.

As reading is the means by which pupils afterwards instruct themselves when they are becoming men and women, its importance cannot be over estimated. The school knowledge they have is but the groundwork of education, on which they themselves must erect the superstructure. If fluency in reading is not carried from school, the likelihood is, that its practice will be given up, intelligence will flag, and contact with information cease. Let the teacher then, without aiming at too high a standard, which may be impossible under existing circumstances, as an elementary instructor in a country district generally, endeavour to reach some standard of proficiency which will leave his pupil with such a skill, as will materially be the means of extending his education beyond the short period of school life.

WRITING.

Writing is a compromise with printed characters. Printed forms are too round and detached to be made with rapidity, and writing, which is neither too rounded or too sharp, as in Mr. Vere Foster's head lines, is most practical for use. A sloping style being easier to the hand is preferred to the upright. Proportion is necessary to prevent indistinctness. The lines forming the letters should be of nearly uniform thickness, *a la Palmerston*, which aids legibility. Fine lines make a "scratch." Some writers adopt a third plan of jerking on the pen, leaving blotches of ink throughout, as if to let off a superfluity of fluid. The beauty of writing is chiefly owing to the curved line, but a portion of this beauty may be sacrificed in order to gain quickness of acquirement. The straight line is not in itself beautiful. The chief curve is the oval or ellipse. Rapidity is a test of writing, but can only be applied in the more advanced pupils. In the earlier stages they are engaged for the most part in watching and imitating the shapes of the letters, and rapidity would be ruinous. The teacher aims at being himself a good writer, as it has a great influence on his success in teaching it.

AIDS IN TEACHING WRITING.—A good desk, not too much sloped, sufficiently wide; the light in front. Desks should be graduated to size of pupils. In sitting at desks, the breast should not lean against them, but should partly rest on left arm. This position must be insisted on in the earlier lessons, and will then become a habit. Paper should be smooth. That supplied in the

national school copy book is generally too rough. Thanks to Mr. Foster, smooth can now be had as cheap as the rough. The best pens we have found to be the 'Waverley,' which has a turned point, and which gives the hair lines nearly as thick as the others. The 'Owl' pen may be used for finer writing, if it be required. The teacher should keep a supply always ready and not depend on the pupils taking care of them. The holding of the pen is now taught; between first and second fingers, and at a distance from the nib, sufficient to prevent the fingers being inked. As in reading, the pupil commences with larger characters than he will afterwards require. Large hand is not necessary, as was taught by the teachers of a bygone generation, but the hand sufficiently large to let the eye easily see the formation of the letters. Some recommend pencilling, afterwards to be gone over with ink, others decompose the characters into their elements; then synthetically the child combines these into letters, and writing is taught. As a child has little sympathy with portions of letters, many do not consider the plan interesting, and therefore not advisable. Writing is a species of drawing, and the pupil, some argue, can imitate a letter or word at once without decomposing it into elements, which present no interesting features to him. The usual way is to write parts of letters, then words and sentences. These different methods may be successful in practice according to the zeal of their advocates. As before remarked, earnestness combined with cheerfulness and judicious management, will bring success to almost any method. The elements of success in writing appear to be, *imitation* combined with *intelligence*, *gradation*, then freedom, and afterwards sufficient application of writing to useful purposes. In imitation, the pupil may be allowed to copy the outlines of letters and simple words, with a black-lead pencil; the premature use of ink is often discouraging. Half-text seems about the size which shows the exact form of the letters accurately, and not too large for young hands deficient in firmness. Small hand comes soon after and needs not be too long deferred, in which size alone it is useful as applied to other instruction. Common letters, as in reading, are taken up before capitals.

The elements are the straight line, the straight line with the curve, the full curve as in O, the simple line and loop as in g. As more interest is attached to words they should be formed as soon as possible, also simple sentences. The capitals are afterwards introduced. Their elements first as in Mr. Foster's copy books. As young hands are easily fatigued, two short lessons for junior classes are to be preferred to one long one. The black-board may be freely used, as giving full scope to exhibit proportion and distance. Copy-books with head lines are now generally preferred. The argument against them is, that pupils imitate the first line or so, and gradually imitate their own writing towards the end. To remedy this a second head-line has been introduced in the middle of the page. Another suggestion is to have fewer lines and these longer.

INSTRUCTION.—The teacher gives instruction aided by the head-line and black-board, as models; and questions the children as to relative lengths, &c. During writing lessons he must be vigilant as to faults, pointing to the model before them and guiding the hand if necessary. Collective demonstration and individual correction are always necessary in class teaching.

It has been urged that the writing exercises be not too formal, but that the scholar should now apply what he has learned to a useful purpose.

Transcribing and dictation may be employed with the more advanced; not only to teach spelling but to produce facility in writing. Small hand may now be introduced.

BUSINESS HAND.—The school hand must now be applied to business. Rapidity is necessary, but not at the expense of legibility. The pupil may be gradually broken into this by causing him to write whole words without lifting the pen. The change must be gradual, or the hand may be broken down and spoiled. Writing without lines can afterwards be introduced.

As writing is a species of drawing, and the teaching of drawing is said to be 'educating the eye to observe and the hand to execute with correctness and gracefulness,' and writing being a branch of instruction in form, the instruction in both may proceed *pari passu* for some distance.

ARITHMETIC.

The conception of *numerical value* and *operation* should be first awakened. Number the pupil early observes, and small operations in it are familiar. Rules may be given at first. The teacher shows him numbers on the ball-frame differing one from the other, and by this means children get ideas relative to value. We take numbers the learner is acquainted with, increase or decrease them, and thus infer *operation*. Concrete number alone to be used at first: the pupil is not yet able to abstract number from things. He knows what four marbles are but cannot reason about the number four. He must be carried to the abstract through the concrete.

NUMERATION.—With numeration, addition and subtraction are connected. We add one each time to reckon upwards, and subtract one to reckon downwards. This is called counting, and after it is learned up to a hundred we may begin to add two numbers together, keeping the added number constant, as, 2 and 2, 3 and 2, 4 and 2; or the receiving number constant, as, 2 and 2, 2 and 3, 2 and 4, &c.; then the adding of more than two numbers; then the adding of tens and tens, and tens and units. Subtraction may be taken in two ways: by varying the minuend and keeping the subtrahend constant, as, 2 from 3, 2 from 4, 2 from 5; or from 10 take 1, 10 take 2, &c.

MULTIPLICATION is best illustrated by addition, first taking small numbers, the multiplier being constant; then with the multiplicand constant. The multiplication table is thus gradually committed to memory. In division, keep divisor constant and proceed by numbers which give no remainder: afterwards with those giving remainders. The four fundamental operations may be thus illustrated in a very elementary way, and afterwards questions given involving them. For these purposes the ball-frame is quite sufficient, taking care that the eyes of the class follow the manipulations.

The standard measure or tables were generally the most uninteresting 'tasks' of early school years, chiefly for this reason, that abstract matter was too soon presented to the scholar, not illustrated by concrete examples. Instead of being so, they can be made most inviting. Three things have to be learned; the value of the units of measurement; their relation to each other; and their application to practical purposes. He learns the first by showing him the real weights and measures and making him handle them. The second he learns by comparing the units one with the other. The third by actual measurements of the objects about him in the school-room. The teacher can have all the weights and measures of the country among his apparatus. The committal of tables to memory will now be a work of little difficulty.

Arithmetic is one of those branches which has a distinct value in the business of life, apart from that which it has in an educative sense. Though the immediate object of its being taught is the former, it may also be made a process of mental cultivation. The teaching of this branch can be carried on with two objects in view; for practical skill, and to strengthen the mental powers. Theory and practice must be combined. The principle on which arithmetic should be taught, appears to be, to infer theory from practice. The teacher gives the pupils examples within their experience and leads them to see what operations are required, and then evolves the general procedure. The four primary rules arise out of the relation of numbers as expressed by our notation. Addition and subtraction directly, multiplication and division indirectly. Combinations of these rules solve all problems. First principles in all cases determine each step. Applied questions may be introduced from the beginning, carefully graduated.

Notation and Numeration may be taught together. The first difficulty to a child is the number 10. In speaking of the first nine numbers it is better to call them two-units, three-units, &c. The numbers being afterwards applied elliptically to various groups may create confusion. The use of the cypher may now be explained as distinguishing between the 1 from unity and the 1 from ten. The number 100 is treated as 10 was. The next difficulty is 101, which the child thinks is 10 and 1. The cypher here used for keeping figures in their relative position is explained. The pupil may be exercised in finding out pages in a book, and to write down numbers when shown them on the ball-frame. When children have learned to read and write so far as a hundred, the further extension of notation and numeration is easy. The following short rule for notation I have found most successful. *Three* figures follow thousands, *six* figures follow millions. This shows at once that three places go to thousands. It is seldom necessary to go beyond millions for practical purposes. I have found after teaching notation as far as a hundred, this short rule produce good teaching results. The importance of numeration and notation may be assumed, when we consider, "that all numerical operations whatever have their basis in the system of numeration which is assumed, and cannot be understood even in the slightest degree, without a clear perception of the principles of that system."

ADDITION is first thought from the concrete; thus, John has 37 marbles, James 36, and Peter 44; how many have they all? This cannot be added by one step as small numbers can. It must be added by successive steps, and then the partial results combined. The rule may be stated with reference to the steps of the operation, and then committed to memory.

SUBTRACTION.—The same explanation and gradation apply. The addition of an axiom is necessary to explain the 'carrying' process. 'The difference of two numbers is not altered if both are equally increased.' Illustrated thus; John is 6d. richer than James, he has still as much richer if both get a penny additional. The illustration from money is a good one; we must change a shilling, when we take away 4d., suppose, and have no coppers; a pound is changed when we want silver to give away. The principles on which these two rules depend are: 'when we add a series of numbers the sum should be the same in whatever order we add them,' and 'what we take away from a thing and what is left of it make up the whole thing.' Mental practice should be continued simultaneously with the written, for the sake of facility. Some recommend compound addition and subtraction with the simple rules, because of the interest which money sums have for children.

MULTIPLICATION, which is a short-hand process of addition, is illustrated by that rule. The multiplication table is the basis of both multiplication and division. Perceptive illustration from ball-frame will show what is meant by "times" or "number of times." Multiply first by the units in succession; then by the tens in succession; then by such a number as 46. The product by 4 must be explained by showing that is it 40 you are multiplying by.

DIVISION table, which is the reverse of multiplication table, has been already learned. Short division is the same as long, one being an elliptical form of the other. Long division explains short, and should be taken before it with easy numbers. In long division the system of 'trial and error' may be followed, as in the example, 9128 divided by 29; two into 9 goes four times and 1 over, will 9 go into 11 four times? No. It is then seen to be contained 3 times. Beginners lose time with experimental quotients.

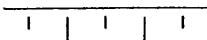
REDUCTION—The pupil can construct tables for himself, from his knowledge acquired by actual examination of the standards of weights and measures used in the school. He is called on to state why he multiplies by 20 in reducing pounds to shillings; the answer to which is 'because there are 20s. in a pound we

shall have 20 times as many shillings as there are pounds.' And so throughout the other weights and measures. Miscellaneous applied exercises now follow. In all cases the *rationale* of the process is explained.

PRACTICE.—This rule may be explained on the principle of 'partial payments;' thus, if for one acre I pay a pound, then 5s., then 6d., what do I pay in all? The name 'Practice' being new, the pupil thinks he is encountering new difficulties, whereas he is only applying 'first principles.' The first exercises in this rule may be given in full, in order to make the process clear; thus.

	5128 articles at £3 5s. 10d. each.		5128		
	s. d.	=	3		
5128 at £3 0 0			15384		
" at 0 5 0 = $\frac{1}{4}$			1282		
" at 0 0 10 = $\frac{1}{8}$			213 13 4		
			£16879 13 4		answer.

VULGAR FRACTIONS.—Visible illustration again required. Divided lines are marked on black-board, and the pupil asked to write the fractions indicated and to draw lines indicating fractions written down. To prove that a fraction is not altered in value when its terms are each multiplied or divided by the same number; a line may be divided into three parts and then each part subdivided thus:



The working of addition and subtraction of fractions depends on this principle here illustrated. Fractions are so prepared for these two rules by reduction to equivalent ones. Mental exercises are required, such as $\frac{4}{9}$ and $\frac{3}{9}$, which bear the same names, and should be as easy added as 4 apples and 3 apples. In multiplication and division of fractions the same remark is applicable.

PROPORTION. It is difficult to children to conceive the relation of four numbers in a proportion. We may begin, thus 2 is the half of 4, and 4 is the half of 8, which is written as 2 : 4 : 4 : 8. By induction from examples it is shown that the product of the means is equal to the product of the extremes. The higher rules are in general best studied by the help of *formule*. Cornwell's and Fitch's arithmetic is recommended as using *formule* for all, from the simplest operations.

To gain facility *practice* is necessary, into which mental arithmetic must largely enter. Exercises systematically given will strengthen the memory of the principles upon which the rule is based. During slate exercises a degree of watchfulness is required, to prevent whispering or copying. There are three criterions, correctness first, then rapidity, then neatness.

THOMAS CUMMING.

In *Irish Teachers' Journal*.

Passing of the Endowed Schools Bill Through Committee.

Despite the paramount interest created by the Lords' debate, the Endowed School Bill made good progress yesterday evening in committee of the Lower House. In answer to an appeal from Mr. Mowbray, the Premier pledged himself to announce at an early period the names of the Commissioners to be appointed under the Act; and after Mr. Forster had passed a well-deserved eulogy on the City of London School, Mr. Chambers agreed to withdraw his amendment to clause 11, which, if it had been adopted, would have practically exempted all civic schools from the operation of the Act. But the real interest of the discussion centered upon clause 12, which instructs the Commissioners, in making any arrangements for the redistribution of endowments, to consider how far they can be conveniently extended to girls. The proviso,

which had been the subject of much discussion in the select committee, was intended to impress upon the commission the importance of promoting female education; but by the more advanced advocates of the principle the clause was not thought sufficient for its purpose; and consequently Mr. Winterbotham had proposed to add to the clause the words, "equally with boys"—an addition which he advocated in a speech of singular force and earnestness. He dwelt upon the fact, that while some three to four hundred thousand pounds, derived from endowments in this kingdom, are spent annually in the education of about forty thousand scholars, less than a hundredth part of that amount is devoted to the tuition of girls. He urged, with much truth, that the principle of free trade in education, which may safely be applied in the case of boys, to whom learning represents direct money's worth, is not equally applicable in the case of girls. Two millions of women, he stated, are already employed in this country in scholastic and industrial pursuits; and he showed that the necessity of providing some better system of education for these women is a matter not so much of individual as of national interest. The strength of his powerful appeal was somewhat marred at the close by the introduction of certain sentimental considerations as to the efficacy of home influences; but the evident sincerity of the speaker caused the House to overlook the defect in the strict logic; and the counter-argument advanced by the Vice-President for not acceding to the amendment was virtually an apology for not complying with Mr. Winterbotham's demands. Mr. Forster pointed out that the clause, as amended, would necessarily be inoperative. Taking things as they stand, and making allowance for the force of national habits and institutions, it would be impossible to divide all endowments equally between the two sexes; and yet the enunciation of an abstract principle of equality would infallibly give rise to expectations that could never be realized. Warned, by leading members on both sides, that the success of his amendment would entail the appearance of defeat on a cause which they had at heart equally with himself, Mr. Winterbotham gave way; but not without drawing forth an acknowledgment, from almost every speaker in the debate, to the effect that to promote a higher standard of education among women was one of the most pressing duties of the State.—*Daily Telegraph*, June 15.

In order to obviate the objections which present themselves to any national system of education in which the denominational element is found, a clause has been introduced enabling parents to obtain for their children exemption from attendance at prayers or lessons of a religious character, and not the least important portion of this clause provides that no scholar shall, by reason of such exemption be deprived of any advantage or emolument to which he would otherwise have been entitled. It is also provided that no person shall be disqualified by reason of his religious opinions from being a member of the governing body of any endowed school. The other features of this measure, which may be described as the first serious attempt made of late years at establishing in this country a truly national system of education, have previously been dwelt upon in these columns. The general effect, when it becomes law, will be to utilize to the utmost the vast sums which are now, though nominally devoted to educational purposes, uselessly squandered. The whole system under which educational endowments are now turned to account will be harmonized, and those who are best entitled to benefit by them will be enabled to do so. Placed under the supervision of one central authority, and compelled, as the governing bodies will be, to conform to the general principles enunciated in the present measure, the sectarianism, the favoritism, the peculation, and the jobbery which has so long disgraced the management of these endowments will, it is to be hoped, speedily and finally disappear.—*Morning Post*, June 15.

Precepts for Youth.

As, in the succession of the seasons, each, by the invariable laws of Nature, affects the productions of what is next in course;

so, in human life, every period of our age, according as it is well or ill spent, influences the happiness of that which is to follow. Virtuous youth gradually brings forward accomplished and flourishing manhood; and such manhood passes of itself, without uneasiness, into respectable and tranquil old age. But when nature is turned out of its regular course, disorder takes place in the moral just as in the vegetable world. If the spring put forth no blossoms, in Summer there will be no beauty, and in Autumn no fruit. So, if youth be trifled away without improvement, manhood will be contemptible, and old age miserable. If the beginnings of life have been "vanity," its latter end can be no other than "vexation of spirit."

* * * * *

The self-conceit of the young is the great source of those dangers to which they are exposed; and it is peculiarly unfortunate, that the age which stands most in need of the counsel of the wise should be the most prone to condemn it. Confident in the opinions which they adopt, and in the measures which they pursue, they seem as if they understood Solomon to say, not, "Who knoweth," but, "Who is ignorant of, "what is good for man all the days of his life?" The bliss to be aimed at is, in their opinion, fully apparent. It is not the danger of mistake, but the failure of success, which they dread. Activity to seize, not sagacity to discern, is the only requisite which they value.—How long shall it be, ere the fate of your predecessors in the same course teach you wisdom? How long shall the experience of all ages continue to lift its voice to you in vain? Beholding the ocean on which you are embarked covered with wrecks, are not those fatal signals sufficient to admonish you of the hidden rock? If, in paradise itself, there was a tree which bare fruit fair to the eye, but mortal in its effects, how much more, in this fallen state, may such deceiving appearances be expected to abound! The whole state of nature is now become a scene of delusion to the sensual mind. Hardly any thing is what it appears to be. And what flatters most is always farthest from reality. There are voices which sing around you, but whose strains allure to ruin. There is a banquet spread, where poison is in every dish. There is a couch invites you to repose; but to slumber upon it is death. In such a situation, "be not high-minded, but fear." Let sobriety temper your unwary ardour. Let modesty check your rash presumption. Let wisdom be the offspring of reflection now, rather than the fruit of bitter experience hereafter.

* * * * *

Of all the follies incident to youth, there are none which either deform its present appearance, or blast the prospect of its future prosperity, more than self-conceit, presumption, and obstinacy. By checking its natural progress in improvement, they fix it in long immaturity; and frequently produce mischiefs, which can never be repaired. Yet these are vices too commonly found among the young. Big with enterprise, and elated by hope, they resolve to trust for success to none but themselves. Full of their own abilities, they deride the admonitions which are given them by their friends, as the timorous suggestions of age. Too wise to learn, too impatient to deliberate, too forward to be restrained, they plunge, with precipitant indiscretion, into the midst of all the dangers with which life abounds. "Seest thou a young man wise in his own conceit? There is more hope of a fool than of him."

* * * * *

In order to render yourselves amiable in society, correct every appearance of harshness in behaviour. Let that courtesy distinguish your demeanour, which springs not so much from studied politeness, as from a mild and gentle heart. Follow the customs of the world in matters indifferent, but stop when they become sinful. Let your manners be simple and natural; and of course they will be engaging. Affectation is certain deformity. By forming themselves on fantastic models, and vying with one another in every reigning folly, the young begin with being ridiculous, and end in being vicious and immoral.

* * * * *

It is necessary to recommend to you sincerity and truth. This is the basis of every virtue. That darkness of character, where we can see no heart, those foldings of art, through which no native affection is allowed to penetrate, present an object, unamiable in every season of life, but particularly odious in youth. If, at an age when the heart is warm, when the emotions are strong, and when nature is expected to show itself free and open, you can already smile and deceive, what are we to look for when you shall be longer hackneyed in the ways of men; when interest shall have completed the obduration of your heart, and experience shall have improved you in all the arts of guile? Dissimulation in youth is the forerunner of perfidy in old age. Its first appearance is the fatal omen of growing depravity, and future shame. It degrades parts and learning, obscures the lustre of every accomplishment, and sinks you into contempt with God and man.—BLAIR.

Normal Schools.

We are here to inquire how the schools of Illinois can be made better: not the schools of the cities and towns alone, but those of the prairies, the cross-roads, and the country neighbourhoods. Our graded and high schools can take care of themselves. Located generally, at the centres of wealth and population, they have the money to secure the best talent. Out of our army of 20,000 Illinois teachers they select the generals. They place them in noble buildings, and surround them with every aid and appliance of the teacher's profession. They expect, in return for their liberality, rich results; and they ought not to be, and are not, disappointed.

We are here to plead for the high privates of the army; for those who toil in cheerless, inconvenient and unfurnished rooms—who do the most work, at the greatest disadvantage, for the least pay. We are here to ask that an opportunity to earn promotion may look every teacher in the face, throughout the length and breadth of the state. We are here to inquire if our free-school system ought not to confer, as far as possible, equal advantages upon the children of the country as upon those of the town; to inquire if it is right to educate at the public expense a class of teachers who, from their limited number, command such salaries as only wealthy districts can pay, to the exclusion of others, not less enterprising, but only less fortunate; and to press the inquiry why, if teachers are so much better by professional training, measures ought not to be at once taken to give to all its advantages.

The majority of our teachers are doubtless faithful, energetic, and earnest. They do the best they can. If they fail, it is not through negligence, but from the simple want of knowing what to do, or how to do it. Their education has had in view, mainly, the acquisition of knowledge. They have sought their own personal improvement. They have studied their own development. Their training has been of that general character best calculated, perhaps, to provide for the common wants of society, but without reference to any special calling or profession. They may have been students; but when the student becomes a teacher, he finds that his knowledge is by no means all that is necessary for his success. He realizes that this is the foundation only, and that the superstructure is yet to be built.

A thorough teacher must be a thorough scholar. But thorough scholarship does not always imply success in the school-room. Our college-graduates make many sad failures. They overshoot the mark. They deal with little children as they would with grown-up men. They want them to think before they know how to see. They appeal to their intellects when they ought to be training their senses. They violate Nature's law, and chagrin and disappointment are the penalties. How much greater the failure when both scholarship and a knowledge of the philosophy of education are wanting. It is through the teachers that we must reach the schools. "A stream can rise no higher than its fountain." Poor teachers proverbially make poor scholars; and the reverse is equally true. Take two adjoining districts. If, at the end of a year, the character of one school is good and of the other bad, if one is called hard to govern and the other easy, you have but to

change teachers, and before the close of the next year the schools will have changed characters.

How can we increase the number of *efficient teachers*? is, then a vital question; and the hopes of the earnest friends of common schools rest in the answer. We have the material: what preparation does it need? The future educators of Illinois are now pupils attending schools. How shall their education be directed, to make them better than their predecessors?

The first thought will be, if the present generation of teachers lack professional training, that *this*, at least, should be supplied to the next. And the conclusion immediately follows that whatever means is best adapted for supplying this deficiency ought to be within the reach of every one who aspires to the profession.

The question of the utility of Normal Schools, happily, at this day, requires but brief consideration. Introduced as an experiment by the advanced friends of popular education, they have demonstrated their usefulness in every community in which they have been established. They are no longer experiments. Suggested originally, doubtless, by the special schools for the other learned professions, they needed only a trial to prove their equal relative value. It would be singular, if the doctor must have his diploma from a medical college, if a lawyer must work his slow way through an office or a law-school, if the minister must have his theology revised and approved by a seminary, that the teacher alone should draw from a common fountain, open to all and partaken of by all, the knowledge, graces and accomplishments adequate to his weighty responsibilities. Men of thought and judgment said No. If one profession requires special culture, so does another; and *that* profession more than *all* others upon which hang the destinies of the world.

It is the province of the Normal School to give this special culture; to place before its students the results of the experience of the past; to furnish them, at the commencement of their career, with the rich stores of practical knowledge that others have acquired only by years of painful toil and experiment; to open the door and explain how the noisy, boisterous group of children, brimful of fun and vitality, shall be organized, classified, and converted into a quiet, orderly, hardworking school; to investigate the laws of mental development, and thereby deduce a natural order and system of education; to teach how to observe, how to think, how to study; to go beneath the rules and formulas of the text-books, to the principles from which they spring; to examine by theory and practice methods of instruction,—criticising those that are faulty and recommending those that are correct, showing what is wrong and why, and what is right and why. It is the province of the Normal School to push aside the veil, and, as far as possible, examine the hidden springs of human actions, for it is the knowledge of these that furnishes the chart of school government: to analyze the motives that prompt to good or bad deeds; to lay bare the key-board of the passions, upon which the fingers of the teacher, playing like a skilful musician, may evolve peace, order, harmony, or noise, discord, and confusion.

There can be no doubt as to the effect of such a course of instruction. There are, and will be, good teachers who have never attended a Normal School; just as there are self-made men who have become great, not in consequence but in spite of surrounding circumstances. But these exceptions furnish no argument. Native talent, however bright, will gain additional lustre by cultivation. The best teachers in the world might have been better by the advice, knowledge and experience of their brethren.

But we are not left to conjecture or the conclusions of argument alone for the demonstration of the value of normal training. We have it as a matter of fact, right here in the State of Illinois a patent fact, 'known and read of all men'. If there were no other normal school in existence, our own noble University would, with its brief experience, furnish ample proof of the worth and success of special culture. Its pupils have given in many school-rooms practical illustrations of their superiority. They have brought to their work enlarged views, correct theories, and hearty enthusiasm. Nor has their usefulness been confined to their individual

spheres of action. A spirit of healthy emulation has been engendered in other teachers. Watching closely the labors of their profession, they have compared them with their own, adopting what was approved, and neglecting what was condemned. They have thereby been led to *think*, and earnest thought in the right direction is the key that unlocks the door of success to every teacher. The people, too, the patrons and supporters of our schools, upon whose aid, sympathy and approbation we all must rely, have felt and answered the quickened zeal of their teachers, by increased interest and enlarged liberality. We venture the assertion that, in no single instance within our state where a well-qualified normal graduate has had charge of the schools of a town or village for the period of one year has the cause of common-school education failed to be invigorated, strengthened, and elevated.

But we are not confined to our own state for this positive testimony. Horace Mann, whose judgment no one will dispute, pronounced the success of the normal schools in Massachusetts "a practical demonstration of their high value as agencies for supplying the common schools with competent teachers," and emphatically declared them indispensable for carrying forward a system of common schools." In his Eleventh Annual Report as Secretary of the State Board of Education, he says, speaking of Normal Schools, "these institutions are steadily fulfilling their great mission." "They are gradually revolutionizing the methods and process of instruction, improving its quality, and enlarging its quantity, throughout the state." Hon. Edgerton Ryerson, Chief Superintendent of Public Instruction of Upper Canada, says, "Wherever Normal Schools have been established, it has been found that the demand for regularly-trained teachers has exceeded the supply which the Normal Schools have been able to provide. This is so in the United States, and in France. It is most painfully and pressingly so in England, Ireland, and Scotland. I was told by the head-masters of the of the great Normal Schools in London, in Dublin, in Glasgow, and Edinburgh, that such was the demand for pupils of the Normal Schools as teachers that, in many instances, they found it impossible to retain them in the Normals Schools during the prescribed course, even when it was limited to a year." Mr. Northrop, whose acquaintance with the actual work of normal teachers is equal to if not greater than that of any other man in America, declares, "The more I visit schools and observe their methods and results, the stronger is my conviction of the necessity and usefulness of Normal Schools. They have greatly elevated the standard of qualification for teaching, both among teachers and the popular estimate. The graduates, as a general fact, have shown greater thoroughness, more system in the arrangement of studies and in the programme of daily duties, more enthusiasm in their work, and devotion to their profession." The Board of Trustees of the State Normal School of Rhode Island report to the Assembly "that the almost uniform testimony is in favor of the marked superiority of teachers from Normal Schools." Equally favorable testimony is given concerning the State Normal School of Connecticut. Indeed, so concordant and so full is the evidence, that the Hon. E. E. White, Commissioner of Common Schools for the State of Ohio, in 1865, in response to a resolution of the General Assembly inquiring as to the practical results of normal schools and their success as agencies in the preparation of teachers, declares, upon a review of the whole subject, "that the only difficulty in answering these inquiries arises from the abundance and high character of the testimony on hand." He adds, "The experiment of specially training persons for the teacher's office has been tried on a scale so wide, under such a diversity of conditions, and with such a uniformity of results, that the evidence of its success is not only manifold, but superabundant for citation as testimony."

As we intimated before, we do not mean to deny that there are many teachers in our state, who have never attended a normal school, equally as competent and successful as those who have. We do not mean to say that the normal school is a universal panacea for all the teacher's ailments. We do not mean to say that

all normal teachers, or even all normal graduates, are good teachers. We do not mean to say that the best of them are free from faults. On the contrary, we think that the majority are prone at first to some slight errors, and those, too, errors that are, perhaps, incidents to their course of training. We think they are a little inclined, some times, to make 'great whales of some very small fishes'—a fault, however, that is soon eradicated by common sense and actual experience. But we do mean to say that, every thing else being equal, those who have had the advantage of special culture are the superiors of those who have not, and that they are just as much superior as our judgment would lead us to believe that time, thought and study given to any work would render one more capable of doing that work speedily, thoroughly, and satisfactorily.

If these conclusions, then, are correct, it is certainly of the highest importance to so extend our normal facilities that the greatest number of teachers may share their advantages. The state has assumed the education of its youth. It compels the payment of taxes for the support of schools. It has shouldered the responsibility and can not shirk the consequences. Its graded and high schools have taken the places of seminaries and academies, or have only left one here and there as a kind of hospital for young ladies of weak intellects, or a quasi reform-school for boys of incorrigible habits. The state has driven private enterprise from the field: it must give us something better in its place. No standard short of the highest can be adopted. We may not reach it in a day, but it must be ever kept in view and steadily pursued. If we believe that the schools of the state would to-day, be more useful, more efficient, and of a higher grade, if every teacher employed for the last five years had received a normal education, it is our imperative duty to see that, for the future, a policy shall be adopted, liberal and permanent, that will be adequate to the accomplishment of this great object.

Through what agencies can the work be done? Either by a system of State Normal Schools, or by a system of County Normal Schools. We think best by a system of County Normal Schools. One, two or three universities will not be sufficient. Our army of teachers falls but little short of twenty thousand. Its ranks must be annually reinforced. Few, comparatively, remain in the profession all their lives. Young men are looking for something more lucrative, and young women *will* get married. Ambition and matrimony have robbed the school-room of many an ornament. The best we can do is to be prepared to fill the vacancies. If all are to be specially educated who intend to teach, nothing less would suffice than a normal school as extensive as our present university in every congressional district. Can we expect this? Is there any probability that any legislature will establish such a system of schools? or, if once established, that every succeeding legislature would appropriate the necessary funds for carrying them on? We all know something of the working of legislative bodies. These annual grants would be next to impossible, or, if given, would be tainted by what rings, what steals, what corruption. No! to our mind, this plan is neither feasible nor desirable. If facilities for normal instruction are offered to all teachers, it much be a gradual work, and can be done no faster than the people are persuaded of its necessity.

Let the the legislature pass an enabling Act, by which each county, at its pleasure, through its board of supervisors, if adopting township organization, or if not, through its county court, may establish a county normal. These bodies directly represent the people. They are composed of men from different parts of the county, who are in daily contact with those interested in schools. Their action is not apt to be premature, but, on the contrary, deliberate, and well advised. There will be but little opportunity for corruption, as they are directly under the eyes of their constituents. The authority to establish these schools will not be exercised by the legislature, which, from the size of the state, can but imperfectly legislate for our local wants, but will be transferred to the counties, virtually handed back to the people, in

whom resides all authority. All the legislature will have to do will be to legalize agencies through which the people can act.

Another reason for the establishment of county normal schools is that they will be attended by a larger proportion of teachers than can be induced to attend state or district universities. As a proof of this statement, out of the forty pupils who were enrolled in our Peoria County Normal School during the term just closed (Dec. 24th), but one purposed attending the State Normal. In the Cook County Normal, out of sixty-seven, only five, and in the Bureau County Normal, out of forty-five, not one, so far as can be ascertained, would have attended our State School. The reasons are obvious. These county schools will be at home. The cost of travelling is avoided. The proximity to their relatives, for self-boarders, materially reduces their expenses. Young men and young women attending are under the supervision of their parents at a time in life when parental care and advice are most valuable. The schools will be emphatically home institutions, brought to the doors of those preparing to teach and of those who employ teachers. To the one they will leave no excuse for the want of proper preparation; to the other they will constantly suggest the feasibility of securing qualified teachers. Directors will say, If we have a normal school in our county, why not have a normal teacher for our school? Our district helps to pay the tax, and it ought to reap some of the advantages. The result must be an elevation of the standard of qualifications for teaching. The taxpayers will demand it, because they are paying for it. The teachers will acquiesce cheerfully. Professional pride, pecuniary emolument, the pressure of the people, and the desire for personal improvement, will be motives strong enough to induce them to prepare for any reasonable standard that may be required.

But how shall these schools be supported? We answer, either by direct taxation, imposed as other taxes are, by whatever counties may establish the schools, or, indirectly, by authorizing such counties to apply a portion of the school-fund annually distributed to them upon the auditor's warrant. There could be no impropriety in this use of the State Fund, as, after its distribution, it belongs to the different counties severally, and each would act for itself. Its application to the support of a normal school would be voluntary with the county, and would inure to the benefit of the whole county. As it is now, each district receives a small sum from the State Fund for supporting its schools. If a part of the fund were diverted to the support of a normal, any district that saw fit could supply the deficiency by an increased levy, or could shorten proportionately their school-terms. Even by the latter course they would be ultimately the gainers, for it is quality, and not quantity, that tells in a school; or, if the method by direct tax be preferred, the amount and the manner of collecting could be fixed by the body determining other matters of county revenue.

How shall they be organized, and by whom controlled? Let the Board of Supervisors or County Court, as the case may be, appoint a Board of Trustees. Let them have the entire management of the school, subject to such restrictions as the enabling Act may impose. Their terms of office should not expire at the same time. For instance they would be elected at first for one, two and three years: thereafter let one-third be elected annually, for three years. In this way the complexion of the board could not be changed at every annual election. They would still, by the power of election, be ultimately responsible to the Board of Supervisors or County Court, and yet would be free from the effect of any sudden whim or caprice of these bodies.

Provision should also be made by the enabling Act for the union of two or more counties when unable singly to support a school. As before intimated, County Normals have been already organized in three counties—Cook, Bureau, and Peoria. In the two latter counties no new buildings have been required: ample accommodation, ready for use, have been tendered, and are now occupied free of expense. In Cook county bids for the permanent location of the school have been made, ranging in value \$10,000 to \$60,000. Judging from the action of these cou-

and from the advantages, both educational and pecuniary, that must accrue to any town securing the location, it is safe to presume that the cost of buildings and grounds is an element that may in most cases be left out of the calculation. This leaves, then, only the outlay for actual current expenses, of which we subjoin the following estimate.

Salary of Principal.....	\$2,000
“ “ Assistant.....	1,000
“ “ Principal of Training Department...	1,000
Fuel, Repairs, Janitor, etc.....	500
Total.....	\$4,500

This supposes the school to be continued for ten months. With the aid of the older pupils, to whom the practice in conducting more advanced recitations, in addition to the regular course in the training department, would be valuable, this corps of teachers would be sufficient, ordinarily, for one hundred scholars.

The County of Peoria pays \$75,000 annually to teachers alone. Her Normal School costs about \$3,500 per year. Can there be any doubt that an outlay of this amount, or of even \$50,000 annually, for the support of a normal school that would, after an existence of a few years, furnish trained teachers for all the schools of the county, would be not only productive of the greatest good, but, measured by its results, would be positive economy?

We believe that the great want of our common schools, to-day, is more competent teachers. We believe the best way to supply that want is to give every teacher an education that will fit him for the profession. We believe the surest and the quickest to accomplish this is by the establishment of County Normal Schools. We would do nothing in any way to weaken our present noble University: on the contrary, we would build it up, strengthen it, extend its course of instruction, make it the pride of the state and a model for the nation. The county schools would be in no way antagonistic: the contrary, a central university, whose course of instruction is wide, deep, thorough, whose professors are men of culture, scholarship, and prestige, would be more than ever needed to furnish principals and teachers for the county schools. The University would be the fountain, the County Schools the rills through which its influence would reach every school-district in the commonwealth. The University would be the Alma Mater, the County School the healthy offspring, reflecting honor on their cherished mother. Towns and cities would no longer hold their monopoly of special culture and trained talent; but teachers educated for their profession, enthusiastic in their profession, and proud of their profession, would be within the reach of every enterprising district, whether on the prairies or in the city throughout the state.

N. E. WORTHINGTON,
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Illinois Teacher.

On Teaching Arithmetic.

HARDLY any subject connected with school work has been more fully discussed than that of teaching arithmetic. That more time is devoted to this study than can well be afforded, it is hard to deny; and yet the results attained are far from satisfactory. More can be accomplished in less time only by improved methods.

Arithmetic should be taught as a science first, leaving its various applications in commercial arithmetic for subsequent treatment. However true it may be that every science had its root in its corresponding art, as "knowledge must be possessed before it can be organized," in teaching we must make it our aim to give our pupils a firm grasp of scientific principles; and this once assured, but little difficulty will remain. When our course of instruction is decided by the scientific character rather than by the practical applications of the subject taught, the

work is greatly simplified. Numbers are susceptible only of increase and decrease. Accepting for a definition of arithmetic the statement that it is the *calculus of numerical values*, we find the various operations of arithmetic reduced to these: to find the *sum or difference, product or quotient, power or root*, of members entire and fractional. It is possible to add but two to these three pairs of operations, and these two are never involved in ordinary arithmetical calculations. Purely arithmetical instruction, then, is confined to training the pupil to a perfect mastery, theoretical and practical, of these various operations as performed upon all classes of numbers. It should be especially borne in mind that the teacher's work is not done when the pupil thoroughly understands and can perfectly explain an operation; he must be able to perform it with the utmost correctness, ease, and speed. This end can be accomplished only by much practice in computation, and this practice should be carried on apart from the theoretical instruction. Ten or fifteen minutes of rapid work per day will suffice, and in most of this work the whole school should be the class.

This comprises all that is peculiar to arithmetic; but in arithmetic, as in other branches of the science which has for its end "to determine certain magnitudes from others by means of the precise relations existing between them," we have, in any problem, first to determine the relations between the given magnitudes; in other words, we must *form* the equation before we can *solve* it. And if written arithmetic, as in algebra, the equation should be formed and stated before commencing the calculation. This course should be pursued from an early period of instruction, all the operations being indicated in the exact logical order. In no other way have I ever succeeded in developing so much logical power in a class as in this. Much time, too, is thus saved.

A scholar will often spend an hour in "working out" an intricate problem, and find the result incorrect; a careful revision of the work shows no error; the teacher's aid is called in, and, after wading through a wilderness of figures, he discovers that the difficulty lies in a misunderstanding of some of the conditions of the question. Time and labor would have been saved by previously putting the question into an equation.

This method is of not less value in facilitating class-work. In a few minutes, at the beginning of a recitation, it can be determined whether every member of the class understands the lesson, and difficulties can be rapidly cleared up when it is known just what they are. It is well to have much exercise in merely putting questions into equations, for the ability to discern the relations between the numbers in any given problem can be developed only by exercise; and unless the pupil possess this ability, his arithmetical education can be of but little practical use to him.

Especial attention should be paid to methods of proof. The pupil should be so trained in the application of tests and checks to his work, as to be perfectly sure that no error undetected remains in his computations.

When the work now indicated is thoroughly done, the difficulties in arithmetic are at an end; for the applications of the science in the various businesses of life will be nothing but a matter of the plainest common sense.

Throughout the whole course of instruction the teacher must never lose sight of those cardinal principles in education, to proceed from the simple to the complex, from the concrete to the abstract. Illustrative examples should be drawn from transactions, occurrences, phenomena, within the child's most familiar experience. In what I have said as to deferring the applications of arithmetic to practical business until the principles of the science are well understood throughout, I shall not, of course, be understood to exclude the consideration of such questions as these. And I would add, that in the above course I have presupposed such a knowledge of the simplest facts of the science as can be obtained from a good primary arithmetic. There are various well-constructed books of this kind, by the faithful use

of which a good foundation can be laid, though the better way is to depend very largely upon oral teaching, in the earlier period of instruction, as well as throughout the course.

It is very desirable to cultivate the power of generalization as far as possible. The teacher should not fear to use letters as general representatives of quantity. Algebra is in part, in our day, what Newton held it to be entirely in his *universal arithmetic*, and arithmetical instruction is much facilitated by calling to one's aid the simpler principles of algebraic notation. Any bright scholar, who has done his work in arithmetic well, should be able to begin any ordinary algebra at about the middle.

Examples in arithmetic should be very largely of a different character. Instead of confining the pupil to the fluctuations in the prices of putty, he should be taught very much in regard to the quantitative relations which have been revealed by the long line of discoverers in every branch of physical science. These questions furnish just as good practice as any other, and the facts thus learned are of permanent value.

One thing more. The use of logarithms should be taught to classes in arithmetic. They would save much laborious computation in the business of life, and ability to use them can be very easily acquired. A four-figure table for practice can be printed on a card eight inches by ten inches, and would cost only a few cents. Will not some printer give us such a table?—C. C. R., in *Maine Journal of Education*.

LITERATURE.

POETRY.

NOBODY'S CHILD.

Alone in the dreary, pitiless street,
With my torn old dress, my bare, cold feet,
All day I have wandered to and fro,
Hungry and shivering, and nowhere to go,
The night's coming on in darkness and dread,
And the chill sleet beating upon my bare head.
Oh! why does the wind blow upon me so wild?
It is because I am nobody's child.

Just over the way there is a flood of light,
And warmth and beauty, and all things bright;
Beautiful children in robes so fair,
Are carolling songs in rapture there.
I wonder if they, in their blissful glee,
Would pity a poor little beggar like me,
Wandering alone in the merciless street,
Naked and shivering, with nothing to eat.

Oh! what shall I do when the night comes down,
In its terrible blackness all over the town?
Shall I lay me down 'neath the angry sky,
On the cold, hard pavement, alone to die?
When the beautiful children their prayers have said,
And mammas have tucked them snugly in bed;
No dear mother ever upon me smiled;
Why is it, I wonder? I'm nobody's child!

No father, no sister, no mother, not one
In all the world loves me,—e'en the little dogs run
When I wander too near them—'tis wondrous to see
How everything shrinks from a beggar like me!
Perhaps 'tis a dream; but sometimes when I lie
Gazing far up in the dark blue sky,
Watching for hours some large, bright star,
I fancy the beautiful gates are ajar.

And a host of white robed, nameless things
Come fluttering o'er me in gilded wings;
A hand that is strangely soft and fair
Caresses gently my tangled hair.
And a voice like the carol of some bird—
The sweetest voice that was ever heard—
Calls me many a dear pet name,
Till my heart and spirit are all aflame.

BE KIND TO THE ERRING.

Be kind to the erring; the humble, the meek,
'Tis the coward alone would trample the weak;
Ye know not how deeply the past they deplore—
In charity cover their sins evermore.

Be kind to the erring, the lowly, the sad;
Oft circumstance ruleth, whose chain driveth mad,
Ah! boast not thy virtue, but con thy heart o'er—
Communion with self crusheth pride evermore.

Commune with thyself, think how reckless thou art,
Enriching thy coffers with wither thine heart;
Take warning by thousands on yonder dark shore—
Remember, thy soul must exist evermore.

Cherish good for itself, nor measure thy gain;
Such motives are sordidly selfish and vain;
In deeds blessing all, and with heart gushing o'er,
Flowing on to the ocean of love evermore.

Religion is nought, all pretensions are vain,
If works are still wanting, ah! where is thy gain?
As bark cast away on some desolate shore,
As wreck on the deep, thou art gone evermore.

Thy days fled away as a meteor's gleam;
Flashing bright for a moment they fade as a dream;
Yea, dream though it be, yet on far distant shore,
Shall in thunders re-echo the past evermore.

As flower dost thou blossom, mere thing of a day,
As breath of the flower thou wilt vanish away,
Let love be thy motto this weary life o'er,
Then in sunshine of love wilt thou bask evermore.

THE WORLD IS WHAT WE MAKE IT.

BY W. H. SHELDON.

Oh! call not this a vale of tears,
A world of gloom and sorrow;
One half the grief that o'er us comes,
From self we often borrow,
The earth is beautiful and good;
How long will man mistake it?
The folly is within ourselves;
"This world is what we make it."

Did we but strive to make the best,
Of troubles that befall us,
Instead of meeting cares half-way,
They would not so appal us.
Earth has a spell for loving hearts;
Why should we seek to break it?
Let's scatter flowers instead of thorns—
"The world is what we make it."

If truth, and love, and gentle words,
We took the pains to nourish,
The seeds of discontent would die,
And peace and concord flourish.
Oh! has not each some kindly thought?
Then let's at once awake it;
Believing that for good 'er ill,
"The world is what we make it."

Concerning Signs and Cognizances.

The great lawyers who have been created peers exhibit a remarkable variety of choice in the mottoes they have adopted. Brougham took the old "Pro rege, lege, grege" (For the king, the law, and the people); while of the other law-lords, "I flourish" is Cairns's; "Spes es fortuna" (Hope and fortune), Chelmsford's; "Trial by Jury," Erskine's; "Persevere," Romilly's; "Labore vinces" (By labour thou shalt conquer), St. Leonard's; "Justitiæ soror fides" (Fidelity is the sister of justice), Thurlow's; "Equalibiter et diligenter" (Steadily and diligently), Truro's; "Audacter et aperte"

(Boldly and plainly), Campbell's. The records of the Baronetages are no less interesting than those of the Peers; and, indeed, they may well be so, for what else should we look for in the histories of the *barones*, the free men, most ancient and independent of adherents—boldest and most powerful of leaders? Most of us have read the admirable preface to "Rob Roy," in which Sir Walter Scott gives such a graphic account of the MacGregors, and in Debrett we learn how the arms and motto borne by the present family originated. An ancestor of the present baronet, in the twelfth century, named Sir Malcolm, was a man of great strength; being of the retinue of the King of Scotland (whose great-niece he had married), he was at a hunting party with the monarch, and his Majesty having attacked a wild boar, or some other beast of prey, was in danger of his life. Sir Malcolm, coming up, requested permission to encounter the animal. The King having replied, "E'en do, and spair nocht," Sir Malcolm tore up an oak sapling, and, throwing himself between his Majesty and the fierce assailant, with the oak in one hand, kept the animal at bay, till; with the other he was able to despatch it by running it through the heart with his sword. In consequence, the king was pleased to raise him to the peerage by the little of Lord MacGregor; and to perpetuate the memory of this brave action, gave him the motto above-mentioned, and an oak-tree eradicate, proper, in the place of the pine, or Scotch fir, which his family had hitherto borne on their shield. "E'en do, and spair nocht," is their motto. The crest of the Johnstones—a spur with wings—is thus accounted for:—One of the ancestors of this family (the Johnstone of his day), while at the Scotch court, hearing of the English king's meditated treachery in favour of Baliol, and to get rid of Bruce, who was at that time at the English court, sent him a spur with a feather tied to it to indicate "Flight with speed." Bruce acted on the hint, and, when King of Scotland, conferred the crest on the Johnstone family. These are some of the accounts which, together with some equally amusing, if less heroic, stories, make up the attractive volumes published under the name of Debrett. The portion of the work containing all necessary information respecting the members of the House of Commons is scarcely less interesting, and may be more acceptable to some readers on the ground of its eminently useful character for reference during a period of strong political affinities, or the reverse. It may safely be maintained, however, that when Richard the Third, who himself so greatly contributed to the destruction of the power previously wielded by the barons, instituted a College of Heraldry, and so, as it might have seemed, dismissed what had previously been a living power to the domains of a dead science, he did not really destroy or even supersede the true life that belonged to these symbols of historical and personal events, since they were the records of the deeds of live men, and their influence is still felt among us whenever we trace the stories that they are intended to commemorate—*The Broadway*.

The Lion and the Unicorn.

The most prominent feature about the royal arms is what heralds call the supporters—the lion and the unicorn. Of these the lion is the badge of England, the unicorn of Scotland; and their position is intended, as the ingenious reader will conjecture, to symbolize the fact that the sovereign is maintained by the union of these two countries. The uninitiated observer would describe the unicorn as placed on the *right* side of the shield, and the lion on the *left* but heralds apply the terms *right* and *left* to a coat of arms with reference not to the spectator, but to the supposed bearer of the shield, who is, of course, behind it. Thus they reverse the ordinary use of the words, and the reader must therefore remember that the lion is the *right*, or *dexter* supporter of the English arms (the place of honour being conceded to England from its superior importance), and the unicorn is the *left* or *sinister* supporter. The reader will at once infer that these supporters could only have come into use at the union of England and Scotland under James I., and the inference is perfectly just. Ever since 1603 the royal arms have been supported as now by the English lion and the Scottish unicorn. What were the supporters previously? the reader asks. Well, they were very various: Elizabeth and Mary and their father had a lion and a greyhound for supporters. Henry VII., a lion and a dragon; Richard III., a lion and a boar; Edward IV., a lion and a bull; Henry V., a lion and an antelope; Henry IV., an antelope and a swan; Edward III., a lion and an eagle. The use of supporters began with Edward III., so that the reader has thus a complete list of the supporters of the royal arms of England. The lion, it will be seen, had almost invariably been used as one supporter (the *dexter*); the other had varied, the different sovereigns usually introducing some family badge as the supporter on the *sinister* side. The Scotch arms had always been

supported by two unicorns, and hence, on the accession of James I. to the English throne, it was determined that the national supporters should thenceforward be the lion of England and the unicorn of Scotland.—*Leisure Hour*.

Wasted Lives.

What bright anticipations and bitter disappointments, lofty hopes and stern realities, go to make up our changeable lives! From infancy to youth, from youth to old age, we are ever chasing the phantom, pleasure, too frequently to grasp the reality, pain. The little toddling infant tries in vain to catch in its wee, dimpled hands the bright sunbeams that dance playfully over the carpet before its delighted eyes. But how soon smiles give place to tears on that childish face when it fails to gather the brightness in its eager little palm! Fit emblem is this of life—the clouds and sunshine that brighten and darken life's pathway. Smiles and tears, clouds and sunshine, still follow us as we tread the intricate mazes of infancy and youth.

Now the future, with all its brightness, looms up before us. We wonder how we could have been content with the trivial things of the past, when such a glorious future awaits us. The busy world holds out her allurements to our enthusiastic senses. Happiness, the one great object which the possession of wealth or fame but just precedes, seems almost within our grasp, only a little beyond. We hasten on; we may perhaps seize its concomitants; but the boon that we have toiled for, our end, our aim, before we reach that bright beyond, is swept from our sight, and we look around us in the same sorrowful amazement as when we failed to catch the sunshine in our baby fits, and wondered how it had eluded us.

Ah! the bright threads and the sombre ones we daily weave into a web of our strange lives! Past experience has taught us that life holds not for us only sunshine. Tempests come, clouds must gather, stern battles must be fought; but after the tempest there comes a calm—after the clouds sunshine—after the battle, victory. Then there comes a time in the history of us all when the world and the things of the world recede from our vision. We call it Death. The throbbing heart is stilled, the life current ceased to flow, and the third soul has gone to try the realities of the spirit world. Mirth gives place to mourning, prayers are said, the procession finds its way to the cemetery. "I am the resurrection and the life," is read by the clergyman, the cofined clay is lowered into its narrow bed, and all of mortality is left alone to silence and decay:—

"So shalt thou rest; and what if thou shalt fall
Unnoticed by the living, and no friend
Take note of thy departure? All that breathe
Will share thy destiny. The gay will laugh
When thou art gone, the solemn brood of care
Plod on—and each one, as before, will chase
His favorite phantom; yet all these shall have
Their mirth and their employments, and shall come
And make their bed with thee."

Yes, "that breathe must share thy destiny;" but to fall unnoticed by the living, with no friend to take note of our departure seems a death almost too grievous to be borne. Ah! methinks that death would be divested of half its pangs, could we but know that some one will mourn us, that some heart-throne will be vacant, that some one will miss our tender ministrations, our words, our presence!—*Home Journal*.

The Last Years of Confucius.

He then moved from city to city, unable to find in the rulers of the various states any princes who were disposed to be guided by his maxims. He had refused all offers of money. He held no place, and received no stated income; so, in the course of his wanderings, he was often in the deepest poverty. He worked assiduously at the revision and arrangement of the ancient books. The precious literary remains of the Yu dynasty, especially the Shoo-king, or "Book of History," employed a large share of his attention. There are possibly, traces of his hand in the Lee-Kee, or "Book of Rites." The "Book of Odes," 311 ballads, which occupy in Chinese literature the venerable place which the Homeric poems maintain in that of Hellas, were selected and arranged under his superintendence. To the Yih-king, or "Book of Changes," he devoted himself with enthusiastic ardour, and to the last he found it the rich quarry which it was always profitable to explore. "If some years were added to my life," he said, "I would give fifty to the study of the Yih, and then I might come to be without great faults." There is, of course, considerable

difficulty in discovering what portions of these works come from the hand of the sage. He was probably a conscientious restorer and collator of original texts. He may have added connecting links to the arguments of the ancients, and illustrated their obsolete expressions with annotations, but he is the entire author of only one of the great classics, viz., "The Chun-Ts'eu, or Spring and Autumn Annals," a history of his native state of Loo. Without his labours, the older works would probably have been lost; but he is their editor, not their author. The historical volume which he added (and which, strangely enough, gives China a Pentateuch), ranks with the four other books in the estimation of posterity; but the modest sage would probably have deemed his works too highly honoured by being placed in company so august. The completion of this book occupied the last years of his life. Only once again did he take a prominent part in politics, and the reception he met with was his crowning disappointment. The Prince of Ts'e was murdered by one of his officers. The event was so startling, and the circumstances so atrocious, that the sage implored his own sovereign to avenge the outrage. The Prince of Loo declined to interfere with his neighbour's quarrels, and pleaded the weakness of his own resources. The treason on the Chinese Zimri seemed, however, to Confucius so dark, and the probable effects of his impotency so mischievous, that he urged his plea for vengeance in other quarters. But the policy of non-intervention was in favour everywhere and the appeal met with no response. Tsze-Loo, his favourite pupil, died about this time. The news of this loss broke the little spirit that the sage had left. Years and trouble were bowing him to the dust. "Early one morning," we are told, "he got up, and with his hands behind his back, dragging his staff, he moved about by his door, crooning over:—

'The great mountain must crumble;
The strong beam must break,
And the wise man wither away like a plant.'

With these words he lay down on his bed. He never left it again. His favourite pupil Tsze-Kung watched and tended him, but his sedulous affection could not prolong his master's life. A week after he had taken to his bed he died, having just completed his seventy-third year. He was buried about a mile to the north of Kio-fou-hien, "his own city," where a superb temple with marble columns and porcelain roof commemorates his fame. His tomb is a grassy mound overgrown with trees and shrubs, approached by long avenues of cypress, and guarded by colossal figures of sages holding bamboo scrolls. Successive emperors have added tablets, and offered sacrifices at the sacred spot, and the fiercest of the rebel leaders, when asked if he purposed violence to the shrine, repudiated as the grossest insult the idea that he could desecrate the place where rests the spirit of "the teacher of ten thousand ages," "the most holy prescient sage Confucius."—*Edinburgh Review*.

SCIENCE.

Spectrum Analysis.

An entirely new branch of chemical analysis, of great delicacy and importance, has recently been developed, chiefly by the researches of Bunsen and Kirchhoff, the principles of which may here be shortly stated.

It has long been known that certain chemical substances, especially the salts of the alkalis and alkaline earths, when strongly heated in the blowpipe, or other nearly colorless flame, impart to that flame a peculiar color, by the occurrence of which the presence of the substance may be detected; if many of these substances are present together the detection of each by the naked eye becomes impossible, owing to the colors being blended and thus interfering with each other. Thus, for instance, the sodium compounds color the flame an intense yellow, whilst the potassium salts tinge the flame violet; the yellow soda color is, however, so much more intense than the purple potash tint, that a small trace of soda prevents the eye from detecting the purple, even if large quantities of potash salts are present. This difficulty is altogether overcome, and this method of observation rendered extremely sensitive, if, instead of regarding the flame with the naked eye, it is examined through a prism. This consists of a triangular piece of glass, in passing through which the light is refracted, or bent out of its course—each differently colored ray being differently refracted, so that if a source of white light, such as the flame of a candle is thus regarded, a continuous band of differently colored rays is observed—the compound white light being resolved into all its

variously colored constituents. This colored band is termed a *Spectrum*, and each source of pure white light gives the same *continuous spectrum*, stretching from red (the least refrangible) to violet (the most refrangible) color, identical in fact with the colors of the rainbow.

If these colored flames are examined by means of a prism the light being allowed to fall through a narrow slit upon the prism, it is at once seen that the light thus refracted differs essentially from white light, inasmuch as it consists of only a particular set of rays, each flame giving a spectrum containing a few *bright bands*. Thus the spectrum of the yellow soda flame contains only one fine, bright, yellow line, whilst the purple potash flame exhibits a spectrum in which there are two bright lines, one lying at the extreme red, and the other at the extreme violet end. These peculiar lines are always produced by the same chemical element, and by no other known substance; and the position of these lines always remains unaltered. When the spectrum of a flame tinted by a mixture of sodium and potassium salts is examined, the yellow ray of sodium is found to be confined to its own position, whilst the potassium red and purple lines are as plainly seen as they would have been had no sodium been present.

The colored flames which are exhibited by the salts of lithium, barium, strontium, and calcium, likewise each give rise to a peculiar spectrum, by means of which the presence or absence of very small quantities of these substances can be ascertained with certainty when mixed together, simply by observing the presence or absence of the peculiar bright bands characteristic of the particular body.

The advantage which this new method of analysis possesses over the older processes lies in the extreme delicacy, as well as in the great facility, with which the presence of particular elements can be detected with certainty. Thus a portion of sodium salt less than the $\frac{1}{100000000}$ th part of a grain can be detected; and compounds are found to be most widely disseminated throughout the earth, which were supposed to occur very seldom. The extreme delicacy of the method is seen when we learn that every substance which has even been exposed to the air for a moment gives the soda line, when placed in a colorless flame; and when we find that the lithium compounds, which were formerly supposed to be contained in only four minerals, by aid of spectrum analysis are found to be substances of most common occurrence, being observed in almost all spring waters, in tea, tobacco, milk, and blood, but existing in such minute quantities as to have altogether eluded recognition by the older and less delicate analytical methods. $\frac{1}{100000000}$ th part of a grain of lithium can thus be detected. A still more striking proof of the value of spectrum analysis lies in the fact of the recent discovery of four new elementary bodies by its means; two new alkaline metals, rubidium and cesium, having been found, together with potash and soda in certain mineral springs, and two new metals, thallium and indium, having been respectively detected in iron pyrites and zinc ores. The new alkaline metals resemble potassium so closely in their properties, that it would be nearly impossible to have detected them by the ordinary analytical methods, although their spectra exhibit very distinct bright bands not seen in the potassium or any other known spectrum. The metal thallium was discovered by observing a splendid green line which did not belong to any known substance; whilst indium was recognized by the presence of a hitherto unobserved fine dark blue line.

It is not only those bodies which have the power of imparting color to a flame which yield characteristic spectra, for this property belongs to every elementary substance, whether metal or non-metal, solid, liquid, or gas; and it is always observed when such element is heated to the point at which its vapor becomes luminous, for then each element emits the peculiar light given off by it alone, and the characteristic. Most metals require a much higher temperature than the common flame, in order that their vapors should become luminous; but they may be easily heated up to the requisite temperature by means of the electric spark, which, in passing between two points of the metal in question, volatilizes a small portion, and heats it so intensely as to enable it to give off its peculiar light. Thus all the metals, among others iron, platinum, silver, and gold, may each be recognized by the peculiar bright lines which their spectra exhibit.

The permanent gases also yield characteristic spectra when they are strongly heated, as by the passage of an electric spark; thus, if the spark be passed through an atmosphere of hydrogen gas, the light emitted is bright red, and its spectrum consists of one bright red, one green, and one blue line; whilst in nitrogen gas the spark has a purple color, and the peculiar and complicated spectrum of nitrogen is observed when this spark is examined with a prism.

The instrument used in these experiments is termed a *spectroscope*. It consists of a prism, fixed upon a firm iron stand, and a tube carrying the slit through which the rays from the colored flame fall upon the prism, and being rendered parallel by passing through a lens. The

light, having been refracted, is received by the telescope, and the image magnified before reaching the eye. For exact experiments, the number of prisms and the magnifying power are increased, and arrangements made for bringing two spectra into the field of view at once, so as to be able to make any wished-for comparison of the lines.

As none of these lines overlies one another, if any number of different substances were present together in a flame, it would be easy to detect the presence of each ingredient by the appearance of all its characteristic lines.

SOLAR AND STELLAR CHEMISTRY.

If sunlight be allowed to fall upon the slit of the spectroscope, it is observed that the solar spectrum thus obtained differs essentially from the spectra which we have hitherto considered, inasmuch as it consists of a band of bright light, passing from red to violet, but intersected by a very large number of *fine black lines*, of different degrees of breadth and shade, which are always present, and always occupy exactly the same relative position in the solar spectrum. These lines indicate the absence in sunlight of particular rays, and they may be considered as shadows, or spaces where there is no light; they are called "*Fraunhofer's*" lines, after a German optician, who first satisfactorily mapped and described them.

In the last few years the existence of these lines has become a matter of great importance and interest, as it is by their help that the determination of the chemical constitution of the sun and far-distant fixed stars has become possible. The spectra of the moon and planets (reflected sunlight) are found to exhibit these same lines in unaltered position, whilst in the spectra of the fixed stars, dark lines also occur, but these stellar lines are different from those seen in direct and reflected sunlight. Hence the conclusion has been long drawn that the Fraunhofer's lines are in some way produced in the body of the sun itself; but it is only recently that the cause of their production has been discovered by Kirchhoff, and thus the foundation laid for the science of solar and stellar chemistry.

If the positions of these dark lines in the solar spectrum be carefully compared in a powerful spectroscope with those of the bright lines in the spectra of certain metals, such as sodium, iron, and magnesium it is seen that each of the *bright* lines of the particular metal coincides not only in position, but also in breadth and intensity, with a *dark* solar line; so that if the apparatus be so arranged that a solar and metallic spectrum be both allowed to fall, one below the other in the field of the telescope, the bright lines of the metal are *all* seen to be continued in dark solar lines. In the case of metallic iron alone more than sixty such coincidences have been observed, and the higher the magnifying power employed, the more striking and exact does this coincidence appear.

With other metals—such, for instance, as gold, antimony, lithium no single coincidence can be noticed, whilst all the lines of certain other metals have their dark representatives in the sun. From these facts, it is clear that there must be some kind of connection between the bright lines of these metals and the coincident dark solar lines, as such coincidences cannot be the result of mere chance. Is the coincidence of the *dark* solar lines with the *bright* iron lines caused by the presence of iron in the sun? And if so, how do the lines come to appear *dark* in the solar spectrum.

The explanation of this, is given by an experiment, in which the bright metallic lines are *reversed*, or changed into dark lines. Thus the bright yellow soda lines (coincident with Fraunhofer's lines D) can be made to appear as a dark line, by allowing the rays from a strong source of white light (such as the oxyhydrogen light) to pass through a flame colored by soda, and then to fall upon the slit of the spectroscope. Instead of then seeing the usual soda spectrum of a *bright* yellow double-line upon a dark ground, a double *dark* line, identical in position and breadth with the soda line, will be seen to intersect the continuous spectrum of the white light. Here then the yellow flame has absorbed the same kind of light as it emits, a consequent diminution of intensity in that part of the spectrum occurred, and a dark line made its appearance. In like manner the spectra of many other substances have been *reversed*, each substance in the state of vapor having the power of absorbing the same rays it emits, or being opaque for such rays.

The explanation of the existence of dark lines in the solar spectrum coincident with bright metallic lines, now becomes evident: these dark lines are caused by the passage of white light through the glowing vapor of the metals in question, present in the sun's atmosphere, and these vapors absorb exactly the same kind of light which they are able to emit. The sun's atmosphere, therefore, contains these metals in the condition of glowing gases, the white light proceeding from the solid or liquid strongly-heated mass of the sun which lies in the interior.

By observing the coincidences of these dark lines with the bright

lines of terrestrial metals, we arrive at a knowledge of the occurrence of such metals in the solar atmosphere with as great a degree of certainty as we are able to attain to in any question of physical science. The metals hitherto detected in the sun's atmosphere are nine in number, viz., iron, sodium, magnesium, calcium, chromium, nickel, barium copper, and zinc. Hydrogen is also known to exist in the sun.

Stellar Chemistry. The same methods of observation and reasoning apply to the determination of the chemical constitution of the atmospheres of the fixed stars, as these are self-luminous suns; but the experimental difficulties are greater, and the results, therefore, are as yet less complete, though not less conclusive, than is the case with our sun.

The spectra of the stars all contain dark lines, but these are for the most part different from the solar lines, and differ from one another; hence we conclude that the chemical constitution of the solar and stellar atmospheres is different. Many of the substances known on this earth have been detected in the atmosphere of the stars, by Mr. Huggins and Professor W. A. Miller, to whom we owe this most important discovery. Thus the star called Aldebaran contains hydrogen, sodium, magnesium, calcium, iron, tellurium, antimony, bismuth, and mercury; whilst in Sirius only sodium, magnesium, and hydrogen have with certainty been detected.

In examining the spectra of some of the nebulae, a striking difference is observed: the stellar spectra, it will be remembered, resemble the spectrum of the sun, inasmuch as each consists of a *bright* ground intersected with *dark* lines; the spectra of the nebulae, on the other hand, consist simply of *bright* lines, like the spectra of hydrogen, nitrogen, or any of the metals. Hence we conclude that the nebulae are masses of glowing gas, and do not consist, like the sun and stars, of a solid or liquid mass, surrounded by a gaseous atmosphere.

The whole subject of solar and stellar chemistry is still in its earliest infancy, but the results already obtained lead to the belief that our knowledge of the chemical composition of those far-distant bodies will become more intimate as the methods of experiment and observation are gradually perfected.—*Roscoe's Elementary Chemistry.*

Geological Notes on Coal.

(From Lecture by M. A. Moon, F. G. S.)

Has the thought ever occurred to the reader that the vegetation which has been converted into coal must have been vastly, yea immeasurably, abundant? True, the vegetation now in some parts of the globe is luxuriant to a degree of which we in these latitudes have little conception; but even that, we believe, is trifling in comparison with the thick masses of vegetation that grew on the islands and fringed the shores of the old world. When you think of the number of coal-beds (being more than forty in some coal-fields), and the thickness of many of them—when you think of the areas occupied, not only by the British coal-fields, but by those of Europe, and especially of the North American States—the latter forming, it is said, an area of more than 200,000 square miles—you are lost in astonishment at the prodigious accumulation of vegetable substance. That feeling of astonishment is however increased when you try to realize the quantity accumulated before it was pressed down and hardened by the overlying rocks into a stratum of coal; say, for example the Ten-yard seam of South Staffordshire. We may form some faint idea of the compressing, squeezing power of the immense pressure of rock masses when it is remembered that quantities of stone left in worked-out mines have during the period of a few years been reduced from 6 or 8 feet to 2 or 3 feet in thickness, and become so hard and consolidated that when their removal has been necessary the workmen could not penetrate them without blasting. Then, if heaps of stones could be reduced to such dimensions by compression, what shall we say about the compression of soft, pulpy vegetable matter? It needs no telescopic eye to perceive that even to form an acre of coal 1 foot thick, an enormous supply of vegetable substance would be needed; but to produce a stratum of 30 feet in thickness, and covering an area of hundreds of square miles, like that in South Staffordshire, how much greater the supply still!

But whence arose this luxuriant vegetation that must have flourished during the coal era? Some have attempted to account for it by supposing that the earth was then placed in various unusual circumstances—that its interior heat affected its surface in a remarkably powerful manner—that it was then revolving through warmer regions of space, and the like. But a rapid, rich flora would adorn the earth's surface without calling in the aid of these unusual conditions. A warm moist climate—not such a climate as we now find at the equator but one free from extremes of heat and cold—a climate like that found on islands in the temperate latitudes, and far away from large

continents, would be sufficient, perhaps, for the production of the carboniferous flora which formed our coal.

It is also possible that then a larger quantity of carbonic acid floated in the atmosphere, thrown off from the lime deposits, which the plants would readily take up, and with which they would rapidly build up their organic structures. Judging from the various plants embedded in the coal, and beautifully preserved in the dark-coloured shales, one would naturally suppose they were not hard in their wood; in fact they appear to have been, as we have already intimated, of a soft, pulpy nature, like cactus plants and sugar canes, many of which must have grown large in diameter, lofty in height, and, we have no the slightest doubt, beautiful in form. . . .

Another form of vegetation seen wherever coal is found is a gigantic reed, otherwise called a calamite. These trees evidently resembled the cane or bamboo, and had tall, hollow-jointed stems, marked with numerous parallel furrows. Their place of growth was unquestionably in swamps, and in the soft silt of the banks of rivers and bays. But many of the coal trees were different in some respects from the trees that now adorn the earth's surface. The present race of fir-trees have a small pith, but the coal fir-trees had piths of an enormous size. The Aracaria tribe of trees, to which the Norfolk Islands pine belongs, is now confined to a small portion of the globe, when, during the carboniferous age, it was the prevailing form. There are other details respecting the flora of that interesting period, into which we cannot at present enter. But we find not only plants embedded in the coal and preserved in the dark-coloured shales, but also the remains of insects, fishes, and reptiles. As Professor W. W. Smyth has observed, "We but recently knew that among these giant stems of sigillaria the busy hum of flying insects and merry chirp of the cricket were heard, that scorpions curled their ominous tails, that land shells crept slimly along, and that several genera and many species of reptiles either pursued their prey along the ground or climbed the trees, where hollow trunks have formed the casket to contain their remains. Here, then, is a goodly population to vivify the scene which only a few years ago was held to be almost wanting in all but vegetable life; and when we consider the accidents which, amid the great decomposition of organic matter, preserved to us these remains, generally inclosed in ironstone nodules, we must feel confident that coming years will have many an additional fact to disclose." But, before leaving the coal plants, there is one fact, to which we must beg to call attention; and that is, that nearly the same plants we have in our coal-fields are to be found in all the coal measures of Europe, North America, and even of China and Japan. And what is the significance of that fact? Does it not show that a similar climate, which we have said must have been a warm, moist one, prevailed over the northern regions of the world during the coal period? And, if so, what must have been the condition of the land with the same climate prevailing over the northern hemisphere? We answer, there must have been a different arrangement of land from that which now obtains in the region of the north, and consequently a different climate from that which now prevails. Instead of having immense continents the whole area was dotted over with a countless number of islands, of various sizes, and at no great distance from each other. "These islands, as has been observed, if at no great distance apart, and if connected by marine currents, might easily have a similar vegetation; they might even possess identical species. That such islands should have a rapid succession of forest growth, and a quick accumulation of trees and vegetation in their hollows, is probable; and that they should have been subjected to occasional depression is only what we find now in the southern seas. There is no reason to doubt that there would be warmth and moisture enough under such circumstances to account for a rank growth of ferns and palms, mixed with gigantic pines, and a few forest trees, such as those which we still possess."

Thus in theorizing about the past, we seek to be guided by the present; and as Nature now works out results apparently similar through distinct paths by various processes, so we may presume Nature has done the same aforesaid in reference to the formation of coal. The forces of Nature never alter in the march of ages.

English and Foreign Standards of Coins, Weights, and Measures.

The Board of Trade—either *cum* Mr. Bright or *ante* Mr. Bright—has put forth a useful bit of information on a subject which often puzzles general readers. We all know that, during our schoolboy days, "Tables of Weights and Measures" graced our arithmetic books; and many of us thought that some of those tables were both difficult to understand, and rather useless when understood. If it was a pleasure, it was certainly a dull pleasure to know that a fodder of hay is 19½ cwt., and that a roll of parchment is 60 skins; that a boll of wheat is 4 firlots, and a drum of figs 24lb. Nor did we feel

great delight in knowing that a chest of soap is 3¼ cwt., a cask of rice 6 cwt., and a barrel of soft soap 256lb. And if we one day committed to memory the facts that the old ale gallon is larger, and the old wine gallon smaller, than the imperial gallon, very likely we either forgot the facts or inverted them on the following day. However, such information is unquestionably useful for many practical purposes, and it is proper that our arithmetic books should tell us something on the subject. But the matter to which the Board of Trade draws attention is the relation between English standards and those of the chief foreign countries. It is certainly a most bewildering thing, when travelling abroad, or when reading accounts of events in foreign countries, to understand the coins, weights, and measures, and to assign equivalent values to them in English. This is an embarrassment which has led many able men to advocate international arrangements on the subject, with a view to the assimilation of the various standards. A French writer well illustrates the difficulties which his countrymen experience in this matter:—"When a French merchant reads in a newspaper that the price of coffee at Cuba is 20 piastres the quintal, and that of cotton at New Orleans \$80 the bale of 145 kilogrammes, he is obliged to do a rule-of-three sum to bring the moneys of one country into those of another before he can see that the prices are equivalent to 116 francs for the coffee and 424 francs for the cotton." He illustrates the matter further by pointing out that when we read in the public journals that the budget of England is 70 millions of pounds sterling, of France 2 milliards of francs, of Austria 437 million florins, and of Prussia 160 million thalers, we cannot compare the relative burthens of the four countries until we have brought the pound, franc, florin, and thaler to equivalent coins of some one denomination. There are difficulties in the way of any simplification of this subject; but the probable advantages would amply justify an attempt in such a direction. Meanwhile, the new list furnished by the Board of Trade is unquestionably useful. It has been compiled from information verified by the British Consuls at the various ports. Let us take about twenty different States, and see what are the usual money standards therein adopted; we shall thereby appreciate the difficulty of committing to memory such a mass of heterogeneous figures:—

- Russia—Silver rouble = 3s. 2d.
- Sweeden—Rix thaler mynt = 1s. 1¼d.
- France—Franc, 25 = £1.
- Norway—Specie rix thaler = 4s. 6d.
- Denmark—Rix bank thaler = 2s. 3d.
- Belgium—(Same as France.)
- Spain—Real vellon, 100 = £1.
- Portugal—Mil reis = 4s. 6d.
- Prussia—Thaler = 3s.
- Greece—Drachma = 8½d.
- Austria— { Florin convention = 2s.
- { Florin standard = 1s. 10¾d.
- Italy—Lira, 25 = £1.
- Turkey—Piastre, 117 = £1.
- Switzerland—(Same as France.)
- Holland—Gulden = 1s. 8d.
- Hamburg— { Mark current = 1s. 2¾d.
- { Mark banco = 1s. 6d.
- Bremen—Rix thaler = 3s. 4d.
- Lubeck—Mark current = 1s. 3d.
- China—Tael = 6s. 8d.

By a little arithmetic we could ascertain the nearest number of pence and farthings equivalent to the franc, real vellon, lira, and piastre, and so give something like symmetry to the above list. But what confusion there is at the best! Take the foreign thaler, the foreign mark, the foreign florin, and see how much they each and all vary. And if our attention happens to be directed to weights and measures instead of moneys and coins, we find the designations and the values vary in a still more bewildering way. Let us take such a weight in each country as makes the nearest approach to an English pound *avoirdupois*, and let us pity the poor people who have to go into such calculations:—

- Sweden—Skålpund = 0.936lb.
- France—Kilogramme = 2.20lb.
- Norway—Pund = 1.1lb.
- Denmark—Pund = 1.011lb.
- Portugal—Libra = 1.012lb.
- Prussia—Mark = 7½oz.
- Greece—Oke = 2.80lb.
- Austria—Mark = 9oz.
- Holland—Pond = 2.2lb.
- Bremen—Pfund = 1.10lb.
- Lubeck—Pfund = 1.07lb.

Do we want to know the names of the liquid measures employed in continental countries, and the equivalent of each in imperial gallons? Alas, what a wild turmoil of designations we should encounter! Oxhurf, anker, vedro, kanna, tonneau, litre, potte, viertel, almude, eimer, baril, stechkanne, tonne; and all of them differing in quantity in the most provoking way. So it is with dry measure, long measure, weight, land measure—no approach whatever to uniformity. Really, there is ample ground for wishing that the wise heads of Europe could somewhat simplify this deplorably complex state of affairs. Meanwhile we thank Mr. Bright's department.—*Civil Service Gazette.*

ART.

Gold and Gilding.

It is difficult to limit the class of work in which gold can be admitted. It naturally is employed for purposes of festivity, but it has obtained admittance into churches and tombs. The sepulchre of Prince Albert is a recent illustration of this. Many legitimate grounds can be named for a use seemingly so inconsistent with mourning. One is its durability, another its power of defining emblems and inscriptions; another relates to its treatment with a large surface of white marble, as white and gold. Gold in the open air of London, exposed to the London smoke, and used in the ordinary way, will stand its two centuries, or longer. It is true St. Paul's ball and cross, the grasshopper of the old Exchange, the dragon of Bow, and other crowning ornaments of Wren's buildings, have been regilt in this century, but this has been chiefly to get a smarter surface. There are examples of gilding in different cities standing for three or four centuries or upwards. Where the gold is laid on with some liberality, its duration may be much extended.

As an internal ornament there is not an old basilica or cathedral in Europe which does not give evidences of the lasting powers of gold and gilding. When properly applied, gold work ought to endure as long as the decorations of the building. This is notably the case when employed in gold mosaic, a very useful variety of ornament for vaulting. As a surface decoration, there are examples in Santa Sophia and many old Byzantine edifices, where it is treated as a gold ground. Gold will certainly last longer than paint for decorations, the cases of pictures forming no exception. Although we have very old specimens of decorations in paint, there are many influences unfavourable to paint which the metal gold resists. Pictures are otherwise taken care of and preserved as objects of adoration or as works of art, but in whatever shape, of distemper or oil, the colours are more affected than gold. Thus gold becomes a suitable medium to the designer of a mausoleum, because it gives him permanence of record for his inscriptions and his emblems.

Gilt inscriptions on black and white marble are effective, and, looking to the authorities we have, it is questionable whether they cannot be more freely employed in panels and cartouches for churches and large halls. For hotel and banquet halls a proper provision of such tablets would save some of the unseemly interferences with the design. In ancient temples and basilicas inscriptions were counted upon as matters of course; but neither in our mediæval nor modern buildings have they been adequately provided for. They are treated as an afterthought, though there is not a club where they are not required. The time comes, and some unsightly painted board mars the palazzo. Hotel entrance-halls must need such appliances, but architects rarely provide adequate means for putting up the names outside of any building. The name should be always designed by the architect. Our foreign brethren are in this respect more careful than ourselves. This brings to mind many happy arrangements of gilt ciphers on metal work in grilles, gates, and windows, of which we have not got examples enough. Gilding in free combination with metal work opens up a long series of applications to which we may refer by-and-by.

Taking price as an element, gilding answers, because it is worth paying for the effect, and worth paying for its durable character as much as marble is. It is, however, an article easily cut off from an estimate, and is, therefore, liable to be suppressed. White and gold we have referred to in the suggestion of tombs, but it is varied in its treatment and admits of a wide range of expression. In the case of a mausoleum of whitemarble, a deadly paleness is apt to lessen its magnificence, for the shadows of the sculptures being also a negation of colour, give no real support. Gilding not only affords relief in a white marble building, but it may be so adjusted as better to define the sculptures or proportions. This defining power, already referred

to, is one of the valuable properties of gold. Black lines and lines of other colours are used under certain circumstances, but a thin line or leading of gold can be made to tell by able hands. Gold can likewise be employed in hollows to bring them out. Thus the whole character of a marble mausoleum may be redeemed without its solemnity being diminished.

The treatment of white marble either in this or other instances depends on its polish, gloss, clearness, cleanness, crystalline character, or exposure to light, and the proportion of gilding required will be regulated by attention to these qualities. There are cases where the gold may by its quantity or disposition create too great a glitter or cut up the architectural features. This is a matter for the discretion of the artist concerned. On the other hand, if the subject is a white marble hall for purposes of show and festivity, the very characteristics of gold enable life and brilliancy to be given. If, too, the hall be small, gold judiciously applied is one means of producing for it greater effect. The general principles applicable to frittering away details apply forcibly to gold, because it can be applied in very small proportions, and thereby a number of points of disturbance be created.

Here, however, is a conventional compensation, though more available in the case of azure than of white. The eye being accustomed to the stars in the firmament will bear a very liberal distribution of gilt stars or points in a ceiling, though perhaps on some other standard the quantity might be considered to be in excess. Conventional associations determine the effect of an object. It is said that an eye painted without an eyelid cannot be made to produce expression, but certainly conventionalities communicate expressions without reference to the labour of the artist.—*Building News.*

The Etruscans.

The characteristic vitality of the Etruscan effigies is worthy of observation in two respects. First, it displays the skill of their artists in rendering individual likeness—making their figures natural without diminishing aught of the solemnity of their purpose. They are the veritable persons they represent, receiving us moderns with the same polite dignity which would have distinguished them had our call been two thousand years earlier, while they were still in the flesh. Secondly, we learn from it that they believed their dead entered at once on a new life without any intermediate sleep or purgatorial probation. I interpret the Etruscan in his tomb to mean that he still regarded himself in all respects as his old identical earthly self called to a new part in life, but retaining every original characteristic and experience, and holding that future changes in him must be the result of processes of growth and development in accordance with laws analogous to those that regulated the formation of his personality on earth. Meantime he remains himself and none other, at our gracious service, if I read the lesson in stone aright. It seems to me that pagan Etruscans recognised this vital principle of creation more decidedly, or at least events more practically, than we Christians do. They may have sensualized their faith in immortality overmuch by their funeral feasts, games, and music, or other exhibitions of their enjoyment of the good things of life, with the evident expectation of something corresponding to these pleasures and honours hereafter. But, as the moral qualities of the departed were made the test of his spiritual condition, the lesson was a salutary and hopeful one. The base of the chief monument of the Volturni is, to my apprehension, as completely a spiritualized motive in art of this sort as exists, uniting consummate simplicity of treatment to a sublimity of character, excelled only in this respect by Blake's design of Death's door, which is the highest conception in the most chaste and suggestive form that the Christian mind has yet achieved to embody its idea of eternal life. The figures do not so much express the new birth as the mysteries attending it. On each side of the door, which represents the passage from the tomb to the life beyond, sits a colossal, winged female figure, in whom the nobility of both sexes is harmoniously united, devoid of any sexual feeling proper, chastely draped, wearing sandals, a burning torch uplifted in one hand, the other slightly turned towards the door, and with an expression that seems to penetrate the secrets of eternity. I say colossal figures, though in reality they are very small, but so grand is their treatment that nothing actually colossal as to size excels the impression they make of supernal force and functions. They are in a sitting attitude, with the feet drawn up and crossed; but the artist has succeeded in giving them a self-supporting look, and also of taking away from the spectator the feeling that they could need any material support. As they will they are in rest or motion. This is a real sublimity of art, because it diverts the mind from thought of material laws to sole cognizance of its loftiest spiritual functions. In

this subtle superiority of spirit over matter, these figures, perhaps, surpass the sculptures of Michael Angelo, and in other respects are akin to his extraordinary power, devoid of the physical exaggeration which obtains in so much of his work, but which further stamps him as a genuine descendant of ancient Etruscan masters now unknown to us by name. Even with his finest symbolical statues, Night and Day, it is difficult, on first view, to get rid of an unwelcome sense of weight, size, and solidity, though this finally disappears as their full meaning and nobleness flow into the mind. The superiority of their Etruscan prototypes is manifest at once from the fact that they suggest nothing below the standard of their conception. We feel the trembling awe of the four shadowy figures, now dimly seen, issuing from the tomb with an anxious, inquiring look at the mystical guardians of the gates of Eternity. Modern learning calls them Furies. Their countenances, nevertheless, are benevolent and inviting. If we meet no more unkindly faces than theirs on being ushered into the other life, it will be a desirable welcome.—*Cornhill Magazine.*

OFFICIAL NOTICES.



Ministry of Public Instruction.

APPOINTMENTS.

COUNCIL OF PUBLIC INSTRUCTION.

The Lieutenant-Governor, by an Order in Council dated the 5th August last, has been pleased to appoint the following Gentlemen to form,—with the Hon. the Minister of Public Instruction,—the Council of Public Instruction for the Province of Quebec:—

Catholic Members.

Right Revd. Charles Larocque, Bishop of St. Hyacinthe ;
 Right Revd. Jean Langevin, Bishop of Rimouski ;
 Côme Séraphin Cherrier, Esq., Q.C., LL.D. ;
 The Revd. Patrick Dowd, P. P. St. Patrick's Church, Montreal ;
 The Revd. Alexandre Elzéar Taschereau, V. G., D. C. L.
 Jacques Cremazie, Esq., LL. D. ;
 Louis Léon Lesieur Desaulniers, Esq., M. D. ;
 Cyrille Delagrave, Esq. ;
 The Hon. Thomas Ryan, Senator ;
 The Revd. Olivier Caron, V. G. ;
 Charles André Leblanc, Esq. Q. C. ;
 Joseph Lachaine, Esq., M. D.,
 Marc Antoine Girard, Esq., and
 Alfred Basile Routhier, Esq.

Protestant Members.

The Right Revd. James William Williams, D. D., Bishop of Quebec,
 The Hon. Christopher Dunkin, D. C. L. ;
 The Revd. John Cook, D. D.,
 The Hon. Sir Alexander Tilloch Galt, K. C., M. G. ;
 The Venerable Archdeacon, William Turnbull Leach, D. C. L., LL. D. ;
 The Hon. Charles Dewey Day, LL. D., and
 The Hon. James Ferrier, Senator.

JOINT-SECRETARY TO THE COUNCIL.

The Lieutenant-Governor, by an Order in Council dated the 13th August last, has been pleased to appoint Louis Giard, Esq., M. D., and Henry Hopper Miles, Esq., LL.D., D. C. L., Joint-Secretary of the Council of Public Instruction, *vice* Henry Hopper Miles, Esq., LL.D., D. C. L., resigned.

SCHOOL COMMISSIONERS.

The Lieutenant-Governor, by an Order in Council dated the 4th August last, has been pleased to appoint the following School Commissioners:—

Acton Vale, Co. of Bagot : M. Hilaire Dubreuil in the room and stead of Eusèbe Dufault who has finally quitted the Municipality—no election having been held within the legal time.

Ste. Hélène, Co. of Bagot : Messrs Joachim Poitras and Charles Berthiaume, in the room and stead of Messrs François Dupuy and François Trottier who have finally quitted the Municipality,—no election having been held within the legal time.

Percé, Co. of Gaspé : The Revd. Mr. Narcisse Thivierge in the room and stead of the Revd. Mr. E. Guilmet who has finally quitted the Municipality,—no election having been held within the legal time.

St. Athanase, Co. of Iberville ; Mr. Jean Bouchard, in the room and stead of Mr. Michel Massé, fils, who has left the Municipality,—no election having been held within the prescribed time.

Ste. Anne Lapocatière, (No. 1) Co. of Kamouraska : Messrs. Antoine Dionne and Adolphe Roy, in the room and stead of Messrs. Clement Rouleau and Nicholas Aubert, whose terms of Office had expired,—no election having been held within the prescribed time.

Township of Ripon, Co. of Ottawa : Mr. Joseph Bissonnet in the room and stead of Mr. Leandre Lavigne, deceased,—no election having been held within the prescribed time.

Roxton Falls, Co. of Shefford : Mr. Patrick Kearney, in the room and stead of Mr. Charles Taite, who has left the Municipality,—no election having been held within the prescribed time.

St. Antonin, Co. of Témiscouata : Mr. Prudent Pinet in the room and stead of Mr. Joseph Bélanger who has left the Municipality,—no election having been held within the prescribed time.

Ste. Arsène, Co. of Témiscouata : Messrs. Joseph Roy and George Derome, in the room and stead of Messrs François Pelletier and Pierre Dumont whose terms of office had expired,—no election having been held within the prescribed time.

Ste. Jeanne de Niverville, Co. of Portneuf : Messrs. Theophile Mercure, François Bedard, Narcisse Boivin, François Bussière and Pierre Elzéar Gingras,—a new Municipality, erected to day.

St. Donat, Co. of Rimouski : Messrs. Didace Morriset, Octave Lavoie, Joseph Reust, Eusèbe Hallé and Godfroi Bernabé,—a new Municipality, erected to day.

St. Côte de Kennebec, Co. of Beauce : Messrs. Gaspard Bélanger, fils de Pierre, and Gaspard Bélanger, fils de Jean ; in the room and stead of Messrs. John McHalleth and Jean Letourneau,—these two Gentlemen were elected in July last, but notice of the election was not given within the prescribed time.

ERECTORNS, SEPARATIONS, ANNEXATIONS, &c., OF SCHOOL MUNICIPALITIES.

The Lieutenant-Governor, by an Order in Council dated the 4th August last, has been pleased

To erect the Township of Armagh, Co., of Bellechasse, into a School Municipality, with its present limits. This erection was asked on the 8th March 1861, as well as several others, but was omitted, however, in the Order in Council of the 14th of the same month :

To separate from the Municipality of Ste. Cécile, in the Co. of Beauharnois, that part of it which had already been detached for religious and civil purposes,—bounded on the North-West by Lake St. Francis, commencing at the Township line of Godmanchester, running as far as lot 72 exclusively,—following the line of said lot 72 to its junction with the *trait carré* of the double range, thence following the said *trait carré* as far as lot 79 included in the first range,—thence as far as lot 45 included in the second range, thence by the line of said lot to the Petit Canal, thence by said canal to Rivière St. Louis, ascending the stream as far as Chemin Bague, thence following by the *trait carré* of the lands of the 7th range of Ormstown as far as the line of the said Township of Godmanchester, and thence following the said line to Lake St. Francis, and annex it to the Municipality of St. Stanislas de Kotska, Co. of Beauharnois ;

To annex also to the said Municipality that part of St. Anicet which had already been annexed for religious purposes,—namely, the first thirteen lots of the 1st and 2nd ranges of the Township of Godmanchester ;

To separate, from the School Municipality of Shawenegan, Co. of St. Maurice, the 1st range and to annex it to Ste. Flore, Co. of Champlain ;

To erect the new Parish of Ste. Jeanne de Niverville into a School Municipality with the same limits it had when erected for civil puposes by proclamation of the 13th January, 1868 ;

To erect the new Parish of St. Donat, Co. of Rimouski, into a School Municipality, adding to its limits for civil purposes the lands of Messrs. Ignace Clareaux, Joachim Paquet, Benjamin Dupont, Ferdinand Gagnon, F. X. Gagnon, and Widow Pierre Berubé, situated in the 13th range of Ste. Luce,—these residents finding it impossible to send their children to the School of the latter place ;

To annex to the School Municipality of Maskinongé all the lands of St. Justin, starting from the property of Mr. Charles Carufel inclusively, to the North-West as far as the Seigniorial line which divides the two said School Municipalities to the South-East.

DIPLOMAS GRANTED BY THE NORMAL SCHOOLS TO THE
PUPIL-TEACHERS IN TRAINING.

LAVAL NORMAL SCHOOL.

June 30th, 1869.

ACADEMY DIPLOMA.—Messrs. Chs. Chartré, Jos. Rouleau, Edmond Rouseau, Ls. Dion, Chs. Trudel, Onésime Thibault et Louis Laroche.

MODEL SCHOOL DIPLOMA.—Messrs. Alphonse Drouin, Marcel Brochu, Ths. Gravel, Théophile Bélanger, Louis Vallée, Cléophas Talbot, Louis Savard, Louis Lamarre, F. X. Grenier, John Ahern et Wilfred Allard.

ELEMENTARY SCHOOL DIPLOMA.—Messrs. Eucharistie Audet, Phidime Simard, Séraphin Truchon, Jos. Marquis, Auguste Nadeau, Moïse Laplante, Nérée Levesque, Hippolyte Filteau, Jean Guité, René Beaulieu, Louis Marquis, Philéas Blouin and Chs. Ed. Gauvin.

MODEL SCHOOL DIPLOMA.—Misses Hermine Bouchard, Emma Beaupré, Marie Levesque, Eléonore Lépine, Catherine Léspérance, Clarisse Monpas Azélie Caron, Prazède Boulanger, Marie Levasseur, Léontine Dionne, M. Louise Lessard, Caroline Chevalier, Georgiana Verreau, Hedwidge Caron, Henriette Gobeille, Marguerite Maltais, Agnès Lapointe, Antonia De Guise, Amaryllis Blais, Aurélie Blanchet, Georgiana Lavergne and Joséphine Malouin.

ELEMENTARY SCHOOL DIPLOMA.—Misses Emma Simard, Olympe Proulx, Odile Côté, Belzémire Marchand, Elizabeth Topping, Philomène Roberge, Aurélie Cormier, Céline Blanchet, Joséphine Vallières, Adéline Rhéaume, Céline Bard, Arthémise Leclerc, Anna Paquet, Eusèbe Picard, Odile Simoneau, Hermine Fortin, Joséphine Garneau, Emma Belley, Malvina Langlois, Arthémise Parant, Cath. Smith, Hélène Lapière, Adéline Piletier, Orpha Gagnéux, Georgiana Dorion, Odélie Tremblay, Alphonsine Gagné, Belzémire Larose, Joséphine Larose, Délima Bédard and Cordélia Adam.

JACQUES CARTIER NORMAL SCHOOL.

July 19th, 1869.

MODEL SCHOOL DIPLOMA.—Messrs. Jos. Guérin, H. Boire, N. Paquin, E. Girardot, E. Labelle, M. Ethier and Max. Guérin.

ELEMENTARY SCHOOL DIPLOMA.—Messrs. J. Lefebvre, A. Gougeon, E. Le Roy, P. Nantel, J. Miller, W. Guillemette and A. Cléroux.

DIPLOMAS GRANTED BY BOARDS OF EXAMINERS.

QUEBEC PROTESTANT BOARD.

Session of May 4th, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E.) 1st Class.—Miss Dora Brown.

2nd Class.—Misses Margaret Elliot and M. Thomas Parks.

D. WILKIE,
Secretary.

MONTREAL CATHOLIC BOARD.

Session of the 3rd and 4th, August, 1869.

MODEL SCHOOL DIPLOMA, (F) 1st Class.—Misses Marie Antoinette Bélique, Marie Chaput and Adéline Richer.

ELEMENTARY SCHOOL DIPLOMA, (F), 1st Class.—Misses Christine Allard, Arzétie Archambault, Alphonsine Barrette, Adele Beauchemin, Rosalie Bélanger, Marie Bonin, Catherine Brady (E), Olivina Carrières, Rose Délima Clairmont, Céline Croissetière, Virginie Desautels, Hélène Desparais, Exilda Dorval, Eugénie Duteau dit Grandpré, Julia Dwyer (E), Marguerite Filiatreault, Marie Galipeau, Albina Gauthier, Mélima Gauthier, Zoé Giroux, Athelia Goodman (E), Georgina Laforet, Marie Lalande, Mélanie Langevin, Exilda Lapière, Séraphine Leroux, Valerie Longpré, Céline Mailloux, Adéline Marchessault, Catherine McGarry, Ellen Teresa, McGillis (E), Hermeline Mandor Mathilde Ouimette, Adèle Perrier, Mr. Léger Provost, Misses Guilhelmine Raizenne, Nazarine Rivet, Victorine Rouleau, Arménie Salva, Eléonore Thibodeau, Jane Elisabeth Weir (F and E.), Messrs. Etienne Stanislas Lussier and Leger Provost.

2nd Class.—Misses Louise Brodeur, Olive Brunet, Anna Bellerose dit Ménard, Malvina Cadot, Eugénie Charpentier, Malvina Doré or Dauray, Marie Desorcy, Perpetue Godin, Virginie Goyer, Joséphine Lachapelle, Adélaïde Lacombe, Céline Laplante, Henriette Laurendeau, Honorine Laporte, Célanie Marois, Dorothé Payette, Anne Payette, Marie Olive Perrier, Pamela Poirier, Virginie Reid (F and E), Elmire Trudeau, Clémence Trudel, Messrs. Gilbert Boucher and Alexis Morel.

F. X. VALADE,
Secretary.

MONTREAL PROTESTANT BOARD.

Session of August 3rd, 1869.

MODEL SCHOOL DIPLOMA, (E), 1st Class.—Mr. David F. Hawley.

2nd Class.—Mr. Thomas Holiday.

ELEMENTARY SCHOOL DIPLOMA, 1st Class.—Misses Matilda A. Cowan, Helen C. Davis, Mary M. Gilmore, Jennie Glasgow and Louisa S. McFee.

2nd Class.—Misses Christiana S. Busby, Mathilde Busière (F), Jane P. Campbell, Amelia Reay, Sarah Somerville, Elizabeth Wilson, and Mr. James Cruickshank, Mary M. Finlayson, Joan Gold, Helen Melville.

T. A. GIBSON,
Secretary.

RIMOUSKI BOARD.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F.) 2nd Class.—Misses Caroline Bérubé, Eloïse Desjardins, Malvina Forbès and Cléopée Fontaine.

P. G. DUMAS,
Secretary.

SHERBROOKE BOARD.

Session of August 3rd, 1869.

MODEL SCHOOL DIPLOMA, (E) 1st Class.—Mr. Alonzo Lee Holmes and Miss Sarah Gillies,

ELEMENTARY SCHOOL DIPLOMA, 2nd Class.—Misses Sarah L. Cutter, Margaret Curran (E. and F.), Christina McLeod and Agnes Wilson.

S. A. HURD,
Secretary.

GASPÉ BOARD.

Special Session of July 21st, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F) 1st Class.—Anne Alfred Edmond Brasslet.

2nd Class (E. and F.)—Mr. Joseph Alphonse Chevrier.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E) 1st Class.—Miss Ellen Maria Coffin.

E. J. FLYNN,
Secretary.

RICHMOND CATHOLIC BOARD.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F) 1st Class.—Messrs George Allard and Louis H. W. Gill (F. and E.)

2nd Class.—Misses Marie Flore Duclos, Marie A. Z. Dumas and Adéline Grégoire.

F. A. BRIEN,
Secretary.

WATERLOO AND SWEETSBURGH PROTESTANT BOARD.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E.) 1st Class.—Misses Ellen Brown, Sophia L. Blake, Ann Eliza Gilbert Clarinda Joyal, Miss Mr. Azariah W. Lawrence and Emma Marston (E.)

2nd Class.—Misses Marinda Streeter, Philomène Saindon (F), Viola V. Smith, Nancy V. Smith and Isabella Ainslie.

WM. GIBSON,
Secretary.

AYLMER BOARD.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E), 1st Class.—Misses Margaret Forand, Elizabeth Symmes and Mary S. Smith.

2nd Class (F)—Miss Anisée Phébée Beaudry.

JOHN R. WOODS,
Secretary.

WANTED

A Teacher to whom £35 a year will be paid. Board may be had for about £18 per annum. Address Lewis Urquhart, Secretary-Treasurer, School Trustees, Bar-à-Choir, Co. of Gaspé, Q.

THE JOURNAL OF EDUCATION.

QUEBEC, (PROVINCE OF QUEBEC,) AUGUST AND SEPTEMBER, 1869.

Our Readers

will observe that our present issue, which is for the months of August and September, is a double one of thirty-two pages.

This was unavoidable in order to continue,—from our last,—the reports of the midsummer examinations of the Educational Institutions of the Province. We have given only the English speaking, save Laval University, as all the others will be found in the last and forthcoming numbers of the French Journal.

As we remarked in our last, we regret being unable to find any report of the McGill Model Schools, and if any others are omitted it is for the same reason.

In the *Educational* department of the Journal will be found two articles,—Normal Schools, and Essay on Teaching Reading, Writing and Arithmetic. The first of these we selected for this number of the Journal as it and our last contain the reports of our three Normal Schools for the scholastic year just ended. It is worth the attention of the friends and opponents of such institutions. The second is an eminently practical subject for live Teachers.

We do not mean to say that the subjects treated of in the Essay are by any means exhausted, but we do say that the writer is a man of large experience in the school-room and received from the Publisher of the *Irish Teachers' Journal*, Dublin, a first prize of five pounds sterling for the article. We shall give the second prize Essay in our next.

Arrival of Bishop Oxenden.

His Lordship the Bishop of Montreal and Metropolitan of Canada arrived this morning (August 31) in Montreal in the Directors' car furnished through the politeness of Mr. Brydges.

He was accompanied by Rural Deans Slack and Duvernet, and by Mrs. Oxenden and child, and four servants. A large body of the clergy and laity greeted him on his arrival, and were severally introduced to him before he left the train. His Lordship and Mrs. Oxenden, the Dean of Montreal and Mr. Hutton treasurer of the synod, drove to His Lordship's residence, in Drummond street, in Mrs. Holland's carriage, which was kindly loaned for the occasion, preceded and followed by carriages containing members of the clergy and laity. The addresses of the clergy will be presented in the afternoon at half-past two in the chapter house, adjoining the Cathedral, and that of the laity to-morrow afternoon at five o'clock, in the Cathedral school-room.

Public Examinations and Distribution of Prizes in the Universities, Colleges, Normal and Model Schools, Convents &c., &c.

LAVAL UNIVERSITY.

After the distribution of prizes to the pupils of the College or Petit Séminaire de Québec, and as the conferring of Diplomas on the Students of the University was about to take place, His Excellency, the Governor-General and Lady Young, the Lieutenant-Governor and

Lady Belleau, the Hon. the Minister of Public Instruction and Madame Chauveau entered the hall, the band of the Seminary playing God save the Queen. After Sir John and Lady Young, and Sir Narcisse and Lady Belleau had taken their seats on the dais prepared for them, surrounded by their suite, Abbé Méthot, Rector of the Laval University and of the Seminary of Quebec accompanied by the Professors of the several faculties approached His Excellency and welcomed him in the following terms :

"Excellencies,

"Before opening this annual *séance* of the Laval University, it is to me a pleasing duty to express to you in my own name and in the name of the members and Professors of the University, the sentiments of joy and gratitude, that your presence at this moment inspires.

"We feel deeply moved by this gracious act of condescension on your part.

"No sooner had your Excellencies entered the old city of Champlain, than you deigned to visit the Laval University, thus giving a public and signal mark of your esteem for the labours of the intellect, the great work of the education of youth, and of your good will towards this institution, which already owes its existence and its privileges to the royal munificence of our August Sovereign.

"It is an act, Excellencies, which the University will carefully engraver in its annals, and one which it will not fail to treasure as a grateful souvenir.

"We know, that in visiting this institution, your Excellencies will not find the splendid edifices, the rich collections, and the magnificent libraries which are the ornament and the glory of the ancient Universities of Oxford and Cambridge, but we do hope, at least, that your Excellencies, even in this hurried visit, will be convinced of the efforts of the founders and directors of the Laval University, to respond to royal favors and to attain the great object of the institution.

"Your presence, Excellencies, in this literary solemnity, will be a new stimulus to our zeal and ardour, as well as a powerful encouragement both to Professors and students.

"With your Excellencies' permission me shall now proceed with the closing exercises of the year."

At the close of the address, the Rector and the Professors sat down, when Mr. Langelier, advocate and professor of Civil Law read a paper on the difference between the present examination of Candidates for the liberal professions and those required before the establishment of the University, after which he paid a well merited tribute to the founder of the University, Mr. Casault.

Now came the conferring of Diplomas and honors won by the students.

LICENCIÉS—FACULTÉ DE MÉDECINE.

M. Paul E. Granbois, with great distinction.
M. Cyrille Lacombe;
J. B. Bolduc;
Albert Pouliot;
Bénoni Guérin-Lafontaine;
Zotique Rousseau,—with distinction.

BACHELIERS.—FACULTÉ DE MÉDECINE.

M. Doherty;
M. G. Turcotte;
M. Hector Marchildon.

BACHELIERS ÈS-ARTS.

M. Charles Bourque;
M. Ed. Marcoux.

BACHELIERS ÈS-LETTRES.

M. Henri Têtu;
Apolinaire Gingras;
Narcisse Proulx;
Onésiphore Turgeon.

BACHELIER ÈS-SCIENCES.

Zoël Lambert.

The following are the names of the Morrin Prize men :

Students of the fourth year.

1er prix, M. E. Granbois;
2nd do, M. Archambault.

Students of the second year.

1er prix, M. Emile Dubé;
2nd do, MM. Malcolm Guay et A. Collet.

The Rector, after having thanked their Excellencies for assisting at the ceremony, addressed the successful candidates, reminding them

that the man who embraces a professional career has a high mission to fulfil. To stand at the head of his profession, it is not enough to be versed in science; he must, moreover, have those exalted ideas which dignify the character of the man and gain him the esteem and respect of the people; he must especially have well-grounded religious sentiments, which should be visible in his every day life.

His Excellency, Sir John Young then spoke in French as follows :

"I regret not having responded, at once, to your kind words, Revd. Rector, but since my arrival in Quebec, I have been so occupied, that I have had no time to prepare a special discourse. I may be permitted, however to say that I have great pleasure in being present at this ceremony. As it is very difficult for me to make an impromptu response in French you will allow me to say a few words in English.

"With every thing that I have seen, since I entered this great institution, I have been particularly struck; I am astonished to see such a noble monument reared to science, such a striking proof of the love of learning.

"Face to face with this great work, I cannot refrain from paying a tribute of homage to the illustrious man, who, two centuries ago, laid the foundation of an institution which to day does honor to the country. Thanks to his great force of intellect, he triumphed over every obstacle found in his way. His confidence in the future has not been misplaced; his great work, continued by his successors, worthy inheritors of his virtues, stands out a lasting monument of his great wisdom.

"In alluding to Mgr. de Laval, I must not forget the great number of other excellent institutions of this city, and their advantages to the community. When I see these colleges and these institutions, in which the youth of the country are so carefully trained, I must say that those whom Providence called to guide the destinies of the country, have not failed in their duty to provide the means of acquiring knowledge, and of learning obedience and the science of life.

"All who have taken part in these noble works deserve our best thanks, and you, Revd. Rector, in particular, will permit to congratulate you on your successful direction, in the ways of science and religion, of so many of the youth of the country as I see assembled around you to day.

"I am certain that they will not fail to profit of your teachings, and to remember that the country eventually counts on their services. They know, moreover, that they are now in the golden days of youth, and that it is in this happy epoch that they must prepare for the future, by sowing the seeds of good principles, by adorning the mind with knowledge and the heart with virtue.

"May the vacation which they are about to enjoy be to them a happy one, and may they return, Revd. Rector, to once more place themselves under your guidance to continue their useful and necessary labours."

This speech of the Governor drew forth reiterated applause from the audience.

The *Journal de Quebec*, to which we are indebted for an account of the proceedings says : We were pleased to see that His Excellency had the good taste and courtesy to address the audience at first in French, and particularly to see that the interest he takes in the cause of education induced him not only to honor our institutions by his presence, but to study the history and progress of public instruction in Canada.

After the address of the Governor-General, the Rector invited the parents and friends of the students to repair to the Cathedral, according to custom, to terminate the ceremony by chanting a *Te Deum*.

Montreal College.

This institution is under the charge of the Reverend Fathers of the Seminary of St. Sulpice. On the first of July the year closed by the usual exhibition and distribution of prizes, the *seance* being presided over by the very Reverend M. Bayle, V. G. and Superior of the Seminary. A large body of the clergy were also in attendance.

The literary exercises were also varied and entertaining, discourses by the pupils having been delivered upon the following subjects :—*"The Last of the Romans and the Barbarians. The Middle Ages and the Renaissance.—Modern Times."* The speakers being MM. Major, Joynt, and Harold. Various pieces of music well executed by the College band, diversified, and gave additional pleasure to the day's proceedings, which were brought to a close by the distribution of the prizes, and an appropriate address from the venerated Superior of the Seminary.—

St. Mary's College, Montreal.

Yesterday morning the second of the literary fetes in connection with this institution took place in the hall of the College, the Rev. F. Vignon presided, having on his right the Rev. Alexander Truteau Administrator of the Diocese, and a number of other gentlemen clerical and lay. The entertainment consisted of a debate upon the question "Should the Press be Free?" varied by vocal and instrumental music.

Mr. Pilette, the chairman, opened the debate in French by stating and explaining the question. He stated that the press was the saviour of a country when properly directed. Its duties were to watch carefully over the interests of country, of religion, and of private reputation &c.

Next followed Nap. Renaud, son of Hon. L. Renaud. He said the press should not be subjected to censorship, Why should his conscience be fettered when he thought he was right? Why should he be tied down? He showed what censorship had done for Socrates. It had put him to death. He spoke well—vigorously—perhaps a little too quick.—Music, singing by College choir.

Ed. Rottot, son of Dr. Rottot of this city, followed for the negative in French. He carried the audience with him, who fairly hung on his lips. His style was nervous, quick and overwhelming. He showed that there should be a censorship over the press. How could the progress of evil be arrested? Look at the evil arising from bad books, bad principles disseminated by the press. He spoke against liberalism. Force even should be used to prevent the evil arising from a misdirected press.

The entertainment was here varied by a musical production.

Next followed John Henchey, of Quebec, in the affirmative. He said the Church had alone the right to censure. Now the Church was banished from the State—the State is fallible, therefore it has no right to pronounce on questions of right or wrong.

The Band of the College then favoured the audience with another selection of music, after which,

John McDonald, from Troy, N. Y., spoke in favor of the press being amenable to censure should its power and influence be exerted in the dissemination of poisonous principles. This would be an evil. The state to preserve itself must strike at its root. Besides nothing in the world was wholly free, and why should the press be the exception? He illustrated his argument by reference to the French Revolution.

The Chairman then gave his decision in favour of the negative.

After the distribution of prizes the audience went to the Church where a solemn *Te Deum* was sung. The celebrant, was the very Rev. Administrator of the Diocese; he was assisted by the Rev. Messire Raymond, of St. Hyacinthe, as Deacon, and the Rev. Mr. Servis, Vicar of St. Roch, Quebec, as Sub-Deacon. The Deacon of Honour being the Rev. Aug. Langcake. When the *Te Deum* was finished, and Benediction given, the students went to bid adieu to their Masters and Prefects.—*Montreal Herald*.

Laval Normal and Model Schools.

This year the annual meeting for the distribution of prizes and Diplomas in this Institution took place in the hall of the school, on Wednesday 30th. June. The Hon. the Minister of Public Instruction presided, and amongst others present may be mentioned the following,—G. V. Cazeau, the Consuls-General of France and Spain, G. V. Thibault, the Curé of Quebec, the Revd. P. Larcher, Drs. Meilleur, Landry, and Baillergeon, and Lieutenant-Colonel Casault.

To see that the public were not overlooked in the evening's entertainment, it is only necessary glance at the following programme,—

Prière de Christophe Colomb.....	F. DAVID.
Distribution des prix aux élèves de la 3e division.	
Ah ! mon fils ! Solo du "Prophète".....	MEYERBEER.
Le Savetier et le Financier (fable déclamée).....	J. B SAVARD.
Distribution des prix aux élèves de la 2e division.	
Chœur et prière de la "Perle du Brésil".....	F. DAVID.
Simplex—(déclamé).....	L. DION.
Trio du "Barbier de Séville".....	ROSSINI.
Distribution des prix aux élèves de la 1ère division.	
Le Docteur Grégoire (chanson).....	N. MERCIER.
Un mot d'histoire (composition).....	A. DROUIN.
Solo du "Barbier de Séville".....	P. PLAMONDON.
Discours de G. Canning (déclamé).....	CHS. CHATRÉ.
Titl à "Robert le Diable".....	N. MERCIER.
La Côte de Beaupré (composition).....	ED. ROUSSEAU.
Avatine de "Robert le Diable".....	MEYERBEER.

Distribution des prix aux élèves de la 1ère division et aux Académiciens. Chœur, récitatifs et couplets des "Diamants de la Couronne". . . AUBER. Collation des Diplômes

At the close of the programme, the Hon. the Minister of Public Instruction presented thirty-one Diplomas to the Pupil-Teachers,—whose names will be found amongst the Official News,—after which he spoke somewhat as follows :—

The last part of the programme, said he, should be omitted as I do not intend addressing the pupils particularly as has been my wont, but refer them to the collection of the *Journal de l'Instruction Publique* and the audience to my speech in the Legislature when the Normal Schools were attacked. Nevertheless, I believe I only interpret the sentiments and wishes of the audience, in congratulating the Principal on the variety of the programme of the evening, and the pupils on the able rendering of its different parts.

I cannot refrain, he added, from complimenting the pupils on their progress in pronunciation and declamation.

This is not all : I assisted this afternoon at a military review of the Pupil-Teachers, in presence of Col. Bagot, Lieutenant-Colonel Casault, Lieutenant-Colonel Lamontagne, and Senator Miller. The pupils were put through a number of company and batallion movements, on the execution of which they were complimented by Col. Bagot.

Considering the increase in numbers of the Pupil-Teachers, and the numerous audience that have assembled this evening to testify the lively interest they take in the Laval Normal School ; I must say that it is to be regretted that the Building is so small. I cannot say when the Government may be able to remedy this, but I hope, (my Hon. friend Mr. Dunkin aiding) that pretty soon a building more spacious and commodious may be at the command of the Laval Normal School.

Grand Vicar Cazeau then followed saying,—I believe at all times I have spoken in favor of the Normal Schools, and when necessary have even defended them. I consider them useful and noble institutions that have already done great good, and whose motto is progress.

The meeting of this evening is a convincing proof of this if one were needed, therefore is it a pleasure for me to congratulate the Pupils, as well as the Principal and Professors on the successful termination of their labours for the year.

The séance was then brought to a close.

A few hours later in the evening the distribution of prizes and Diplomas to the Female Pupil-Teachers of the Normal School took place at the Ursuline Convent, in the presence of pretty nearly the same audience as were present at the preceding. The Hon. the Minister of Public Instruction, who presided, presented 53 Diplomas, 21 of which were for model and 32 for Elementary Schools.

The programme was as well chosen as it was rendered. In the literary part, the declamation of a piece entitled "*La Dernière Œuvre*" by Miss Hermine Bouchard was loudly applauded, as well as several pieces by Misses E. Simard and Catherine Lespérance. In the musical part a song, "*Les Rivaux*" sung by Misses De Guise, Parent, and Emma Beaupré was very much admired.

After the presentation of Diplomas, the Principal announced that Miss Hermine Bouchard had won the Prince of Wales's Prize. Two young Ladies had obtained the absolute number of marks necessary, and Miss Bouchard had only gained the prize after a close competition with her rival, Miss Emma Beaupré. The Minister then presented the medal to the victor, after which he congratulated the Pupils and Professors on the successful termination of their labours for the scholastic year.

PRIZE LIST.

MALE DEPARTEMENT.

PUPILS OF THE THIRD YEAR.

Universal History, Rhetoric, French, Latin, Mathematics and Philosophy—1st prize Chs. Chartré and Jos. Rouleau ; 2 Edm. Rousseau and Ls. Dion.

PUPILS OF THE SECOND YEAR.

Excellence—1st pr Alphonse Drouin, 2 Marcel Brochu ; 1st acc Ths. Gravel, 2 Louis Vallée, 3 Louis Savard. Religious Instruction—1st pr F. X. Grenier, 2 Théophile Bélanger ; 1st acc Alphonse Drouin, 2 Ths. Gravel et Cléophas Talbot. Theory and Practice of Teaching—1st pr Louis Vallée, 2 Ths. Gravel ; 1st acc Alphonse Drouin, 2 John Ahern. Dictation (French)—1st pr Alphonse Drouin, 2 Marcel Brochu ; 1st acc Ths. Gravel, 2 Cléophas Talbot, 3 Théophile Bélanger. Grammatical Analysis—1st pr Alphonse Drouin, 2 Marcel Brochu ; 1st acc Ths. Gravel, 2 Louis Vallée, 3 Ls. Savard.

Logical Analysis—1st pr Alphonse Drouin, 2 Marcel Brochu ; 1er acc Ls. Savard, 2 Ls. Lamarre, 3 Louis Vallée. Literature—1st pr Alphonse Drouin, 2 Cléophas Talbot, 3 Ls. Savard and John Ahern ; 1st acc Theop. Bélanger and Marcel Brochu, 2 Ths. Gravel and F. X. Grenier. Mythology—1st pr Théop. Bélanger, 2 Cléophas Talbot and A. Drouin ; 1st acc Louis Vallée, 2 John Ahern, 3 F. X. Grenier. History of France—1st pr Ls. Savard and J. Arch. McDonald, 2 Wilfrid Allard ; 1st acc Alphonse Drouin, 2 Théop. Bélanger, 3 Cléophas Talbot and John Ahern. History of England—1st pr Théophile Bélanger, 2 Ths. Gravel ; 1st acc Ls. Savard, 2 Alph. Drouin and Ls. Vallée, 3 Ls. Lamarre. Geography—1st pr Louis Vallée, 2 Théop. Bélanger ; 1st acc Ths. Gravel, 2 John Ahern, 3 F. X. Grenier. Arithmetic—1st pr Thomas Gravel, 2 Louis Vallée ; 1st acc Marcel Brochu, 2 Phidime Simard, 3 John Ahern. Book-keeping—1st pr Louis Vallée, 2 John Ahern, Théop. Bélanger, Ths. Gravel and Ls. Lamarre ; 1st acc J. Arch. McDonald, 2 F. X. Grenier, 3 Léon Pouliot. Algebra—1st pr Ths. Gravel, 2 F. X. Grenier ; 1st acc John Ahern, 2 J. Arch. McDonald. Geometry—1st pr F. X. Grenier, 2 Ths. Gravel ; 1st acc Cléophas Talbot, 2 Wilfrid Allard, 3 Louis Lamarre. Astronomy—1st pr F. X. Grenier and Ls. Lamarre, 2 Alphonse Drouin ; 1st acc Théop. Bélanger and Ls. Vallée, 2 J. Arch. McDonald. Natural Philosophy—1st pr Théophile Bélanger, 2 John Ahern ; 1st acc J. Arch. McDonald, 2 F. X. Grenier, 3 Cléophas Talbot. Chemistry—1st pr Théop. Bélanger, 2 Cléophas Talbot ; 1st acc J. Arch. McDonald and Alph. Drouin, 2 Ls. Savard, 3 John Ahern. Calligraphy—1st pr Alphonse Drouin and M. Brochu, 2 J. Arch. McDonald, Ls. Lamarre and Théop. Bélanger ; Acc F. X. Grenier and Cléophas Talbot. Dictation (English)—1st pr John Ahern, 2 J. Arch. McDonald, 3 Alphonse Drouin ; 1st acc Marcel Brochu, 2 Cléophas Talbot. English Grammar—1st pr Alphonse Drouin, 2 John Ahern ; 1st acc J. Arch. McDonald, 2 Jos. Marquis, 3 Marcel Brochu. English Analysis—1st pr J. Arch. McDonald, 2 John Ahern, 3 Alphonse Drouin ; 1st acc Marcel Brochu, 2 Téléphore Bélanger. Translation—1st pr J. Arch. McDonald, 2 Alphonse Drouin, 3 Jos. Marquis ; 1st acc John Ahern, 2 Cléophas Talbot.

PUPILS OF THE FIRST YEAR.

Excellence—1st pr Jos. Marquis, 2 Auguste Nadeau ; 1st acc Moïse Laplante, 2 Jean Guité, 3 Chs. Ed. Gauvin. Religious Instruction—1st pr Jos. Marquis, 2 Chs. Ed. Gauvin ; acc Nérée Levêque. Theory and Practice of Teaching—1st pr Auguste Nadeau, 2 Louis Marquis ; 1st acc Nérée Levêque, 2 Jean Guité. Dictation (French)—1st pr Hippolyte Filteau, 2 Jos. Marquis ; 1st acc Moïse Laplante, 2 Auguste Nadeau, 3 Henri Germain. Grammatical Analysis—1st pr Jos. Marquis, 2 Hipp. Filteau and Philéas Blouin ; 1st acc Jean Guité, 2 Daniel Blais, 3 Auguste Nadeau. Sacred History—1st pr Jos. Marquis, 2 Chs. Ed. Gauvin ; 1st acc A. Pinard, 2 Jean Guité, 3 Alphonse Lelaidier. History of Canada—1st pr Chs. Ed. Gauvin, 2 Aug. Nadeau and Jos. Marquis ; 1st acc Moïse Laplante, 2 René Beaulieu, 3 Jean Guité. Arithmetic—1st pr René Beaulieu and Jean Guité, 2 Aug. Nadeau and Jos. Marquis ; 1st acc Télép. Bélanger and Nérée Levêque, 2 Alfred Trudelle, 3 Ls. Marquis. Book-keeping—1st pr Pierre Lépine, Ls. Marquis and D. Blais, 2 Jean Guité ; 1st acc Auguste Nadeau, 2 Moïse Laplante and Chs. Ed. Gauvin, 3 Jos. Marquis. Geography—1st pr Jos. Marquis, 2 Aug. Nadeau and Ls. Marquis ; 1st acc Jean Guité, 2 Nérée Levêque, 3 Moïse Laplante. Natural Philosophy—1st pr Moïse Laplante and A. Nadeau, 2 Jos. Marquis and Philéas Blouin ; 1st acc Jean Guité, 2 Chs. Ed. Gauvin, 3 Alph. Lelaidier. Calligraphy—1st pr Chs. Ed. Gauvin, 2 Alfred Remy ; 1st acc J. Bte. Savard, 2 Pierre Lépine. Remarkable Progress—pr F. X. Bélanger and René Beaulieu. Dictation and Translation (English)—1st pr Alf. Remy, 2 Nérée Levêque ; acc Ths. Gravel. Reading and Pronunciation—1st pr Simon Remy, 2 Ths. Gravel ; 1st acc J. B. Savard, 2 Aristide Pinard.

THE FIRST AND SECOND DIVISIONS UNITED.

Piano and Harmonium—1st division—pr Chs. Chartré ; 1st acc Ls. Dion and Edmond Rousseau, 2 J. Arch. McDonald, 3 J. Bte. Sévigny and Onésime Thibault. 2nd division—pr Alexis Boivin ; 1st acc Jos. Marquis, 2 Auguste Nadeau, 3 Alphonse Drouin and Moïse Laplante. Singing—pr J. B. Savard ; acc Marcel Brochu. Plain-chant and Solfeggio.—1st division—1st pr J. Arch. McDonald, 2 Marcel Brochu ; 1st acc Edmond Fortier, 2 Ls. Savard and Jos. Marquis, 3 Alexis Boivin. 2nd division—1st pr Auguste Nadeau, 2 Jean Guité et Alphonse Drouin ; 1st acc Simon Grenier, 2 Séraphin Truchon, 3 Nérée Levesque et J. B. Savard. Military Tactics—Prize George Mayrand. Company—Prize Jean Guité, Auguste Nadeau, Chs. Chartré and Léon Pouliot. Batallion—1st pr Edmond Fortier, 2 Cléophas Talbot. Military Instruction—Prize Jos. Maltais.

FEMALE DEPARTMENT.

PUPILS OF THE SECOND YEAR.

Excellence—1st pr Hermine Bouchard, 2 Emma Beupré; 1st acc Marie Lévêque, 2 Eléonore Lépine, 3 Cath. Lespérance. Religious Instruction—1st pr Hermine Bouchard, 2 Emma Beupré, 3 Clarisse Monpas; 1st acc Eléonore Lépine, 2 Marguerite Maltais, 3 Azélie Caron. Theory and Practice of Teaching—1st pr Catherine Lespérance, Hedwidge Caron, Hermine Bouchard, Emma Beupré and P. Boulanger, 2 Agnès Lapointe, Marie Levasseur, C. Chevalier, Léontine Dionne, Clarisse Monpas and Azélie Caron; 1st acc Georg. Verreau, Marie Lévêque, M. Lse. Lessard and Eléonore Lépine. Dictation (French)—1st pr Hermine Bouchard, 2 Emma Beupré; 1st acc Eléonore Lépine, 2 Azélie Caron, 3 Catherine Lespérance. Grammatical Analysis—1st pr Emma Beupré, 2 Hermine Bouchard; 1st acc Marie Levesque, 2 Caroline Chevalier, 3 Georgianna Verreau. Logical Analysis—1st pr Emma Beupré, 2 Hermine Bouchard and Catherine Lespérance; 1st acc Eléonore Lépine, 2 Marie Levesque, 3 M. Louise Lessard. Literature—1st pr Hermine Bouchard, 2 E. Beupré, 3 Catherine Lespérance; 1st acc Eléonore Lépine, 2 Praxède Boulanger, 3 Clarisse Monpas. History of Canada—1st pr Clarisse Monpas, 2 Catherine Lespérance and Caroline Chevalier; 1st acc Marie Lévêque, 2 Hermine Bouchard, 3 Emma Beupré. History of France—1st pr Catherine Lespérance, 2 Clarisse Monpas, and Azélie Caron; 1st acc Eléonore Lépine, 2 Hermine Bouchard and Léontine Dionne, 3 Emma Beupré. History of England—1st pr Emma Beupré, 2 Hermine Bouchard, Eléonore Lépine and Catherine Lespérance; 1st acc Georgianna Lavergne, Léontine Dionne and Praxède Boulanger, 2 Azélie Caron, 3 Agnès Lapointe. Arithmetic—1st pr Hermine Bouchard and Léontine Dionne, 2 Eléonore Lépine; 1st acc Clarisse Monpas, 2 Emma Beupré, 3 Caroline Chevalier. Book-keeping—1st pr Hermine Bouchard, 2 Hedwidge Caron; 1st acc Praxède Boulanger, 2 M. Lse. Lessard, 3 Eléonore Lépine. Measurement—1st pr Hermine Bouchard and Cath. Lespérance, 2 Eléonore Lépine; 1st acc Clarisse Monpas, 2 Marie Levasseur, 3 Praxède Boulanger. Geography—1st pr Catherine Lespérance, 2 Azélie Caron; 1st acc Emma Beupré, 2 Clarisse Monpas and Marie Levasseur, 3 Hedwidge Caron. Calligraphy—1st pr Léontine Dionne, Eléonore Lépine, M. Louise Lessard, 2 Caroline Chevalier and Joseph Malouin; 1st acc Catherine Lespérance and Clarisse Monpas, 2 Hermine Bouchard, Marie Levesque. Map Drawing—1st pr Catherine Lespérance and Amaryllis Blais, 2 Clarisse Monpas; 1st acc Léontine Dionne, and Josephine Malouin.

PUPILS OF THE FIRST YEAR.

Excellence—1st pr Belzémire Marchand, 2 Elizabeth Topping; 1st acc Phil. Roberge, 2 Aurélie Cormier, 3 Céline Blanchet. Religious Instruction—1st pr Aurélie Cormier, 2 Belz. Marchand; 1st acc Anna Pâquet, 2 Herm. Fortin. Theory and Practice of Teaching—1st pr Anna Pâquet, 2 Eusébie Picard and Céline Blanchet; 1st acc Céline Bard, 2 Amélie Cormier, 3 Joséphine Garneau. Dictation (French)—1st pr Belzémire Marchand, 2 Aurélie Cormier; 1st acc Arthémise Leclerc, 2 Phil. Roberge, 3 Joséphine Vallières. Grammatical Analysis—1st pr Joséphine Vallières, 2 Elizabeth Topping; 1st acc Belz. Marchand, 2 Aurélie Cormier, 3 Céline Blanchet. Sacred History—1st pr Joséphine Garneau, 2 Belz. Marchand, 1st acc Anna Pâquet, 2 Odile Simoneau. History of Canada—1st pr Georgiana Dorion and Cél. Blanchet, 2 Olympe Mercier; 1st acc Belz. Marchand, 2 Elyse Lavoie, 3 Arthémise Parent. Arithmetic—1st pr Arthémise Leclerc, 2 Elizabeth Topping; 1st acc Céline Bard, 2 Belz. Marchand, 3 Malvina Langlais. Book-keeping—1st pr Aurélie Cormier, Phil. Roberge, Arthémise Leclerc and Belz. Marchand, 4 Eliz. Topping, Jos. Garneau, Geo. Dorion and D. Bédard; 1st acc Céline Bard, Malvina Langlais, Belz. Larose and Sophie Massée. Geography—1st pr Philomène Roberge, 2 Céline Blanchet; 1st acc Belz. Marchand, 2 Odile Simoneau and H. Lapière, 3 Adéline Rhéaume. Calligraphy—1st pr Georgiana Dorion, 2 El. Topping, Arth. Parent and A. Cormier; 1st acc Philomène Roberge, 2 Arth. Leclerc and Céline Blanchet, 3 Orpha Généreux. Map Drawing—1st pr Odile Simoneau, 2 Philomène Roberge; 1st acc Hermine Fortin, Emélie Trudel. Remarkable Progress—1st pr Céline Blanchet, 2 Cordélia Adam.

PUPILS UNITED.

Drawing.

Study of Physiognomy—1st pr Odile Côté, 2 Antonia De Guise and H. Bouchard; acc Aurélie Cormier. Landscape—1st pr Philomène Roberge, 2 Céline Bard, 1st acc Adéline Rhéaume, 2 Odile Tremblay. Piano—1st pr Antonia De Guise, 2 Aurélie Cormier. Singing—1st pr Emma Beupré, 2 Arthémise Parent, 3 Antonia De Guise.

FIRST ENGLISH CLASS.

Reading—1st pr Georgiana Dorion, 2 Cordélia Adam; acc Philomène Roberge and Emélie Brock. Dictation—1st pr M. Lse. Lessard, 2 Cath. Lespérance; acc Marie Lévêque and Belz. Marchand. Translation—1st pr Georgiana Verreau, 2 Henriette Gobeil; acc Cordélia Adam and Eliz. Topping. English Grammar—1st pr Emma Beupré, 2 Joséphine Malouin; acc Emma Simard and Cath. Lespérance. English Grammar—1st pr Clarisse Monpas, 2 M. Lse. Lessard; acc Mary Carroll and Amélie Blanchet. Literary Composition—1st pr Mary Carroll, 2 Clarisse Monpas; acc Emma Beupré and G. Dorion.

SECOND DIVISION.

Reading—1st pr Hermine Bouchard, 2 Marguerite Maltais; acc Azélie Caron and Eléonore Lépine. Dictation—1st pr Léontine Dionne, 2 Anna Gagnon; acc Hermine Bouchard and Adéline Rhéaume. Translation—1st pr Léontine Dionne, 2 Marie Levasseur; acc Caroline Chevalier and Azélie Caron. Recitation—1st pr Caroline Chevalier, 2 Praxède Boulanger; acc Hedwidge Caron and C. Blanchet.

Laval Model (Males) School Prize List.

ENGLISH DEPARTMENT.

Senior Division.

Excellence—1st pr John Beresford, 2 Daniel McSweeney; 1st acc Louis Brown, 2 Edward English. Religious Instruction—First class—1st pr John Beresford, 2 Louis Brown; 1st acc Daniel McSweeney, 2 John Ryan. Second class—1st pr Charles McSweeney, 2 James Thomas; 1st acc Patrick Walsh, 2 Robert McDonald. Reading—Third class—1st pr Alfred Dion, 2 Joseph Chandonnet and Paul Blouin; 1st acc Philéas Barbeau, 2 Arthur Chartier. Fourth class—1st pr Philip Roux, 2 Narcisse Roy and Joseph Cloutier; 1st acc Alexis Chandonnet, 2 Thomas Chandonnet. Fifth class—1st pr Elzébert Roy, 2 Ludger Parent; 1st acc Alfred Cimon, 2 Louis Langlois. Dictation—First class—1st pr Daniel McSweeney, 2 John Beresford. Second class—1st pr Edward English, 2 Robert McDonald; 1st acc Patrick Walsh, 2 Louis Brown. Third class—1st pr Alfred Dion, 2 Philéas Barbeau; 1st acc Arthur Turcotte, 2 F. X. Lapointe. Fourth class—1st pr Alexis Chandonnet, 2 Narcisse Roy; 1st acc Philip Roux, 2 Thomas Chandonnet. Fifth class—1st pr Ludger Parent and Elzébert Roy, 2 Alfred Cimon; 1st acc Louis Langlois, 2 Elzéar Richard. Translation—English into French—First class—1st pr Daniel McSweeney, 2 John Beresford. Second class—1st pr Charles McSweeney, 2 Robert McDonald; 1st acc Napoléon Parent, 2 Patrick Walsh. First class—1st pr Nap. Parent and Alf. Dion, 2 Philéas Barbeau. Second class—1st pr F. X. Lapointe, 2 Laliberté. Third class—1st pr Philip Roux, 2 Alexis Chandonnet; 1st acc Jos. Martel, 2 Jos. Cloutier. Fourth class—1st pr E. Roy, 2 Ludger Parent and Ls. Langlois. English Grammar—First class—1st pr John Beresford, 2 Daniel McSweeney. Second class—1st pr James Thomas and Patrick Walsh, 2 Louis Brown; 1st acc Charles McSweeney, 2 Robert McDonald. Third class—1st pr Alfred Dion, 2 Paul Blouin; 1st acc Alexis Laliberté, 2 F. X. Lapointe. Fourth class—1st pr Philip Roux, 2 Joseph Martel and Thomas Chandonnet; 1st acc Alexis Chandonnet, 2 Victor Orioux. Parsing—First class—1st pr Daniel McSweeney, 2 John Beresford. Second class—1st pr Louis Brown, 2 Napoléon Parent; 1st acc Edward English, 2 Robert McDonald. Third class—1st pr Alfred Dion, 2 Paul Blouin; 1st acc Philéas Barbeau, 2 Alexis Laliberté. Book-keeping—1st pr Daniel McSweeney, 2 John Beresford; 1st acc Louis Brown, 2 Edward English.

Junior Division.

Religious Instruction—1st pr John Maguire, 2 Joseph Chandonnet; 1st acc Martin Hannon, 2 Alfred Turcot. Reading and Spelling—First class—1st pr John Maguire, 2 Martin Hannon; 1st acc William Walsh, 2 Louis Généreux. Second class—1st pr Victor Lemieux, 2 Henry McSweeney; 1st acc Robert Cantwell, 2 Hector Valin. Third class—1st pr Eugène Leclerc, 2 Joseph Gingras; 1st acc Joseph Rochette, 2 Siméon Grondin. Fourth class—1st pr Louis Vanfelson, 2 Louis Parent; 1st acc R. Richard, 2 Eugène Deslauriers. Dictation—First class—1st pr John Maguire, 2 Martin Hannon; 1st acc William Walsh, 2 Louis Généreux. Second class—1st pr Victor Lemieux, 2 Henry McSweeney; 1st acc Robert Cantwell, 2 Victor Valin. Vocabulary—1st pr John Maguire, 2 Arthur Balzaretto; 1st acc Louis Généreux, 2 Martin Hannon.

FEMALE SENIOR CLASS.

FIRST DIVISION.

Excellence—Catherine Hetherington, 1st acc Mary Ann Quinn, 2 Mary Kelly. Good Conduct and Assiduity—1st pr Catherine Hethe-

ington, 2 Mary Kelly; 1st acc Mary Ryan, 2 Mary Vincent Nolan. Religious Instruction—1st pr Mary Ann Quinn, 2 Catherine Hetherington; 1st acc Emma Trumble, 2 Mary Kelly. Grammar and Dictation—1st pr Catherine Hetherington, 2 Emma Trumble; 1st acc Mary Ann Quinn, 2 Mary McEnry. English Analysis—1st pr Margaret Trumble, 2 Mary Kelly; 1st acc Mary Vincent Nolan, 2 Sophia Ross. Arithmetic 1st pr M. A. Quinn and M. V. Nolan, 2 Mary McEnry; 1st acc Emma Trumble, 2 M. Kelly and Bidelia McNamara. Sacred History and History of Canada—1st pr Emma Trumble, 2 Catherine Hetherington; 1st acc Margaret Trumble, 2 Bidelia McNamara. Geography—1st pr Bidelia McNamara, 2 Catherine Hetherington; 1st acc Julia McEnry, 2 Mary McEnry. Writing—1st pr M. V. Nolan and B. McNamara, 2 Margaret Trumble; 1st acc Catherine Hetherington, 3 Mary Kelly.—Grammar and Dictation (French)—1st pr Mary McEnry, 2 Mary A. Quinn; 1st acc Emma Trumble, 2 Audélie Audy. Grammatical Analysis—1st pr Emma Trumble, 2 Mary Kelly; 1st acc Catherine Hetherington, 2 Mary McEnry. Reading and Vocabulary—1st pr Eugénie Bouchard, 2 Mary Kelly; 1st acc M. A. Quinn and M. McEnry, 2 Catherine Hetherington. Translation—1st pr Catherine Hetherington, 2 M. A. Quinn; 1st acc M. McEnry and M. Kelly, 2 Bidelia McNamara.

SECOND DIVISION.

Good Conduct and Assiduity—1st pr Ellen Nolan, 2 Sophie Dubé; 1st acc Catherine Mylett, 2 M. A. O'Mally. Religious Instruction—1st pr Mary Ryan, 2 Bridget Hawley; 1st acc Ellen Nolan, 2 Mary Noonan. Grammar and Dictation—1st pr Catherine Mylett, 2 Annie Proctor; 1st acc Ellen Nolan, 2 Kate Clancy and M. Noonan. Translation—1st pr Catherine Mylett, 2 M. A. Montgomery; 1st acc Ellen Nolan, 2 Mary Ryan. Geography—1st pr Mary V. Nolan, 2 Mary Noonan; 1st acc Sarah Newton, 2 Mary Ryan. Grammar and Dictation (French)—1st pr Julia McEnry, 2 Sophia Ross; 1st acc Mary V. Nolan, 2 Sophie Dubé. Reading and Vocabulary—1st pr Julia McEnry, 2 Amanda Chandonnet; 1st acc Amanda Déry, Catherine Mylett. Arithmetic—1st pr Ellen Nolan, 2 Audélie Audy and E. Bouchard; 1st acc Mary Noonan, 2 Sophie Dubé and C. Mylett. Sacred History—1st pr Ellen Nolan, 2 Annie Proctor; 1st acc Catherine Mylett, 2 Mary Noonan. Writing—1st pr Julia McEnry, 3 Bridget Hawley; 1st acc Catherine Mylett, 2 Kate McGobrick.

THIRD DIVISION.

Good Conduct and Assiduity—1st pr Catherine Hogan, 2 Julia O'Mally; 1st acc Margaret Hearn, Margaret Mulcare. Religious Instruction—1st pr Catherine Hogan, 2 Eliza Jennings; 1st acc Margaret Mulcare, 2 Margaret McNamara. Grammar and Dictation—1st pr Catherine Hogan, 2 Kate Proctor; 1st acc Alice Ryan, 2 Adrienne Plamondon. English Reading—1st pr Ellen Atherdon, 2 Ellen Murphy; 1st acc Margaret Mulcare, 2 Margaret Hearn. Geography—1st pr Ellen Nolan, 2 Mary A. O'Mally; 1st acc C. Mylett and M. McNamara, 2 C. Hogan and Kate Clancy. Writing—1st pr Eliza Jennings, 2 Sophie Dubé; 1st acc Margaret Mulcare, 2 Ellen Murphy. Reading and Vocabulary—1st pr M. A. Montgomery, 2 Mary Noonan; 1st acc Ellen Nolan, 2 Kate Clancy.

FOURTH DIVISION.

English Grammar—1st pr Margaret Mulcare, 2 Margaret Hearn; 1st acc Susan Mullin, 2 Ellen Murphy. Geography—1st pr Mary A. Swindel, 2 Elizabeth Denery; 1st acc Sophie Dubé, 2 Susan Mullin. Reading and Vocabulary—1st pr Kate McGobrick, 2 Susan Mullin; 1st acc Margaret Mulcare, 2 Joanna Walsh. Sacred History—1st pr Margaret Hearn, 2 Susan Mullin; 1st acc Kate McGobrick, 2 Joanna Walsh. Arithmetic—1st pr Susan Mullin, 2 Adrienne Plamondon; 1st acc Margaret Hearn, 2 Joanna Walsh.

JUNIOR CLASS.

FIRST DIVISION.

Good Conduct—1st pr Annie Workman, 2 Florence Loftus; 1st acc Minnie Noonan, 2 Bridget Walsh. Assiduity—1st pr Florence Loftus et Minnie Noonan, 2 Bridget Walsh. Religious Instruction—1st pr Jane Hawley, 2 Honorah Reed; 1st acc Florence Loftus, 2 Minnie Noonan. English Reading and Spelling—1st pr Honorah Reed, 3 Margaret Donovan; 1st acc Bridget Walsh, 2 Jane Hawley. Sacred History—1st pr Florence Loftus, 2 Annie Workman; 1st acc Minnie Noonan, 2 Honorah Reed. Geography—1st pr Florence Loftus, 2 Minnie Noonan; 1st acc Isabella Watters, 2 Jane Hawley. English Reading—1st pr Annie Workman, 2 Minnie Noonan; 1st acc Clarisse Chandonnet, 2 Honorah Reed. Arithmetic—1st pr Bridget Walsh, 2 Isabella Watters; 1st acc Jane Allen, 2 Fanny Walsh. English Grammar—1st pr Annie Workman, Minnie Noonan; acc Honorah Reed. Writing—1st pr Bridget Walsh, 2 Lizzie Craig; 1st pr Fanny Walsh, 2 Annie Workman.

SECOND DIVISION.

Good Conduct—1st pr Ellen Cannon, 2 Louise Mylett; 1st acc Ellen Crotty, 2 Alice Murphy. Assiduity—Eliza Drouin, 2 Lizzie Noonan. Religious Instruction—1st pr Ellen Crotty, 2 Alice Murphy, acc Lizzie Noonan. English Reading and Spelling—1st pr Ellen Cannon, 2 Louisa Mylett; 1st acc Lizzie Noonan, 2 Alice Murphy. Arithmetic—Lizzie Noonan, 2 Eliza Drouin; acc Louisa Mylett. History and Geography—1st pr Alice Murphy, 2 Eliza Drouin and Ellen Crotty. Writing—Rosanna Crahms, 2 Clarisse Chandonnet.

THIRD DIVISION.

Good Conduct and Assiduity.—1st pr Fanny Hogan and Agnes Foley, 2 Ellen Carmody; 1st acc Sarah Hart, 2 Ellen Nolan. Reading and Spelling (English)—1 pr Ellen Carmody, 2 Jane Donovan; 1st acc Sarah Hart, 2 Ellen Nolan. Sacred History—1st pr Ellen Carmody, 2 Sarah Hart; 1st acc Agnes Foley, 2 Margaret Donovan. Arithmetic—1st pr Joannah Collins. Writing—1st pr Lizzie Noonan. Religious Instruction—1st pr Agnes Foley, 2 Ellen Carmody and Fanny Hogan; 1st acc Sarah Hart, 2 Ellen Nolan.

FOURTH DIVISION.

Religious Instruction—1st pr Julia Dubé, 2 Jane McLane. English Reading—Esther Casgrain, 2 Emma Fisher; 1st acc Jane McKlane, 2 Julia Dubé. Arithmetic—1st pr Esther Casgrain, 2 Julia Dubé; acc Emma Fisher. Writing—1st pr Jane McKlane, 2 Bridget Hogan, 1st acc Emma Fisher, 2 Jane Donovan.

Jacques Cartier Normal and Model Schools.

Monday, the 19th of July last, brought the labours of the year of the above named institution to a close.

The Chair was occupied by the Hon. Attorney General Ouimet, and amongst the others present were C. S. Cherrier, Esq. Q. C.; Canon Lamarche, Revd. Mr. Lenoir, Director of Montreal College; Revd. Mr. Tassé, Superior of Ste. Thérèse College; Revd. Jos. Aubry, D. D., several Gentlemen of the Seminary of S. S.; the Jesuit Fathers, the Oblate Fathers, numbers of the Clergy from the city and country, besides the parents of the pupils and friends of education.

The *Séance* was opened by music, instrumental and vocal under the able direction of Professor Brauneis.

Before the distribution of prizes the Revd. Abbé Godin, gave a very interesting recital of his mission to Europe.

After this, the distribution of prizes to the pupils of the Model School took place. Then came the distribution to the Pupil-Teachers of the Normal School, in the presentation of which the Revd. Principal paid some delicate and well merited compliments to several of the Teachers. Now may be said to have arrived the most interesting portion of the *séance*, namely the presentation of Diplomas, kindly performed by the Hon. Attorney-General Ouimet,—the names of the successful Candidates will be found under the head of Official News.

The whole audience applauded the new Teachers; and the Principal's remarks, eulogistic of the labour and good conduct of the pupils during the year just ended, were warmly received by the assembly. Never, said he, since I became Principal of the Normal School, have I had greater reason to be satisfied with students. If any credit is due to others than the pupils it must be shared in by the Professors, who have laboured zealously and successfully for the advancement of their pupils.

One of the staff, who has ably assisted the Principal during the last three years, is about, to leave the Normal School, to assume the responsible duties of Director of Ste. Thérèse College, a post held by the present worthy Principal, before he was selected by the Hon. Minister of Public Instruction to fill the important position of Principal of the Jacques-Cartier Normal School.

The Hon. the Attorney-General Ouimet being called upon to address the audience, said, he regretted exceedingly that the enemies of the Normal School, if it had any, were not present at this *séance*, as they undoubtedly would have become convinced that it is not only an excellent Institution but one indispensable to the country, because it has for its object the preparation of Teachers, who will spread the benefits of a good education over the country, thereby contributing powerfully to make good citizens.

The Normal School has acquitted itself of its task, in a manner that reflects credit on our country. Many old prejudices still exist in the minds of many against teachers, and by consequence against institutions where they are trained; these prejudices have caused teaching to be regarded as an humble career in which devotedness to the cause has not been rewarded by the esteem and gratitude it deserves.

It is only just, however, to remark that all right thinking men to day, appreciate the honorable calling of the Teacher, thanks to the institutions in which they have been specially prepared for their mission, and to the Teachers themselves who have done much to ennoble the profession while in it, as well as to shed lustre on other professions after leaving it.

It is with great pleasure, said Mr. Ouimet, that I have heard the Principal eulogize the application and good conduct of the Pupils.

May these young men thus continue; it will maintain the credit of the Normal School that has trained them, and reflect honor on the Government that supports the Institution.

Mr. Ouimet regretted that unavoidable circumstances prevented the presence of the Hon. the Minister of Public Instruction, who, it is well known, takes a warm interest in the institution.

He (Mr. Ouimet) would not fail to convey to Mr. Chauveau the great pleasure he had experienced in being present at the proceedings of this day.

In concluding, Mr. Ouimet, thanked the Principal for having invited him to preside at the meeting for the distribution of prizes, and at the same time hoped the pupils would accept his best wishes for their success in their new sphere of life.

Mr. Cherrier who is a devoted friend of education and the Normal School was present this year, as usual, to encourage, by the voice of experience, the growing progress of the institution.

He said it was unjust for those, who saw material progress march with railway speed, to expect that an institution so recently founded as this was, could produce all the fruits of promise. They forgot, he said, that time is always necessary to establish anything good and durable. The Institutions of a country, are like its laws which must not be hurriedly made, nor when made destroyed before they have had time to produce the results expected. Elsewhere Normal Schools have given a victorious answer to those who say we have done too much for this Institution.

The *séance* was terminated by singing *God save the Queen*.

MODEL SCHOOL PRIZE LIST.

English Department.

4TH CLASS.

Spelling.—1st pr John Kelly, 2 John Kavanagh; 1st acc Henri Lamoureux, 2 David Belair, 3 Jos. McLoughlin. Versions (French into English)—1st pr D. Belair, 2 F. Martin; 1st acc H. Lamoureux, 2 D. Colorette, 3 E. Vannier. Reading—1st pr J. Kelly, 2 ex acquo Jos. McLaughlin, R. Ranson; 1st acc J. Kavanagh, 2 F. Francis, 3 D. Belair. English Grammar—1st pr J. Kelly, 2 J. Kavanagh; 1st acc Jos. McLoughlin, 2 H. Lamoureux, 3 D. Belair. Geography—1st pr J. Kelly, 2 J. Kavanagh; 1st acc H. Lamoureux, 2 F. Martin, 3 E. Vannier. Application—1st pr E. Vannier, 2 L. Belanger; 1st acc D. Belair, 2 D. Colorette, 3 J. Kavanagh.

3RD CLASS.

Spelling—1st pr Jos. Drouin; 1st acc J.-Bte. Rolland, 2 James Kelly. Reading—1st pr Louis Gauthier; 1st acc J. Kelly, 2 F. Gaudoua.

2ND CLASS.

Spelling—1st pr John Hughes; 1st acc A. Boivin, 2 A. Chartrand. Reading—1st pr A. Boivin; 1st acc John Hughes, 2 A. Chartrand.

1ST CLASS.—1ST DIVISION.

Spelling and Reading—1st pr G. Couillard; 1st acc A. Charbonneau.

2ND DIVISION.

Spelling—Prize—P. Bourque; 1st acc Z. Mathieu, 2 W. Colorette. Accessits Henri Lamoureux and David Belair.

College of St. Laurent.

The annual distribution of prizes of the St. Laurent College took place on the 7th instant. The weather was beautiful, and the friends of the pupils and of the institution, came in force to see the attendant ceremonies.

The *séance* was presided over by the Rev. Father Saurin. Among the distinguished visitors were Hon. Att'y-General Ouimet, Hon. Judge Beaudry, Rev. Mr. Bayle, Superior of the Seminary of St. Sulpice, Monseigneur Vinette, Father Sache, S. J., Mr. Deguise, Dr. Tasse, and the Hon. Mr. Lacoste.

The ceremonies were opened by the band of the College, which,

during the day played several well chosen pieces. An address on Eloquence was given in French by Mr. Brodeur, a pupil, and one in English, on 'Reputation,' by M. P. Sisk. Dramatics formed no small part of the entertainment, two pieces being played, one in English, the other in French. The particular excellence of these consisted in the accuracy with which the parts were learned. After the light and amusing part of the programme, came the distribution of prizes, which were many, and evidently very acceptable to those who received them.

After the prizes had been given, farewell addresses were spoken by D. Rosaire, Montreal, in French and English, and by Edward Mahon, New York in English. Hon. Att'y-General Ouimet then spoke at considerable length in French, recommending the teachers in the College for their excellence, and for the proficiency which their scholars had attained. He also mentioned the commercial course which he said was very thorough, and of great value to the young men studying there.

The Rev. Father Saurin, of Notre Dame du Lac thanked the Attorney-General for his kind remarks concerning the teachers, and testified to the interest which he took in the school. After a pleasant morning spent in the college, the party broke up. A very fine dinner was served in the refectory of the College, to the invited guests.—*Gazette* July 8th.

Montreal Collegiate School.

EXAMINATION PRIZE LIST.

First Class.—Alexander Robertson, Beeton's Universal Dictionary; Charles Berthelot, Half Hours in English History.

Second Class.—Robt. Nicholson, Half Hours with the Best Authors; E. E. Gilbert, Half Hours with the Best Authors.

Third Class.—Henry Reindhart, Men of History; Henry Reindhart, School Boy Honour.

Fourth Class.—Ebenezer Muir, A Year at the Sea Shore, Ebenezer Muir, The World at Home.

Fifth Class.—George Baxter, Shepherd of Bethlehem, George Baxter, Voyage Round the World.

Sixth Class.—T. C. Miller—Round the World.

T. W. Wilson—Smith's Round the World.

French Prizes.—Alex. Robertson—Euvres Choisies de J. Racine. James Shannon—Guillaume le Conquérant.

George Pratt—Voyage dans l'Inde Anglaise.

E. Muir—La Chaumière Irlandaise.

Honourable mention was made of John McLennan, James Morgan, Ernest Lacroix, J. Shannon, J. Dunn, W. McLennan, F. McLennan, Jas. Walker, Robt. Lindsay, D. McLennan, H. Buchanan, Chas. Clare, John Garth, Jno. Swan, A. Tidmarsh, B. Moscrip, E. Milloy, A. Tylee, A. Seybold, J. Barclay, Robt. Auld.

Additional Prizes.—John Dunn, Percy's Tales of the Kings and Queens of England; James Bea, Buckland's Noble Rivers; John McGill, Afar on the Forest; Lewis D. Ross, Little Harry's Troubles.

Christian Brothers' School, St. Lawrence Ward, Montreal.

The distribution of Prizes to the English speaking portion of the Brothers' School, St. Lawrence Ward, came off on Friday, the 16th July. The large Hall was tastefully decorated, and the friends and acquaintances of the scholars filled every available seat, in order to witness the ceremony of the distribution, etc.

There were a good many gentlemen of the city present, amongst whom we observed Rev. Father Dowd, of St. Patrick's, and several other clergymen; C. S. Rodier Esq., ex-Mayor, and Marcus Doherty, Esq., Advocate. The Rev. Father Dowd occupied the chair.

Several dramatic and musical pieces were performed in an admirable manner, and all seemed highly pleased with the proficiency and ability displayed by the young performers. After the distribution of prizes, the Rev. Father Dowd complimented the pupils on their ability and industry, and said that he was chary of giving praise, unless where he was satisfied that praise was due; but he had no hesitation in saying, on the present occasion, that the pupils of St. Lawrence School merited the very highest encomiums he could give them. C. S. Rodier Esq., next addressed the scholars, in French.—He expressed himself highly delighted with what he had seen, and hoped that they would go on increasing their store of useful knowledge, and, by so doing, reflect credit on themselves and honor on the institution that was sparing no pains or expense to implant in their minds the germs of piety and learning.

Marcus Doherty, Esq., rose to pay his tribute of praise to the unmitigable evidences of talent and ability he had observed during the

performances that had just terminated. He said he could not help contrasting the advantages youth had at the present day of becoming instructed in all that elevates and refines the mind, with the disadvantages that had to be encountered when he was a school boy, by those who desired to learn even the ordinary branches of an English education.

He remarked that they should feel grateful for the facilities afforded them of becoming so well instructed in all that was necessary for their future success, and exhorted them never to forget the obligations they were under to their devoted masters, who so unceasingly labored for their advancement.

The proceedings were brought to a close about noon, having commenced at about half-past nine in the morning.

In the afternoon, at 5 o'clock, the musical and dramatic performances of the French pupils of the School commenced. The inside of the building was filled with anxious spectators, an hour before the appointed time.

We noticed amongst the invited guests, Rev. Mr. Rousselot, who occupied the chair, Rev. Mr. Barbarin, and other gentlemen of the Seminary; Mr. J. J. Curran, Advocate, Mr. Leblanc, Advocate, Dr. Beaubien, Mr. D. Barry, and others.

In giving an account of such entertainments as the present one, people are always more or less inclined to say something *couleur de rose*; but really the singing and acting, on the occasion, were so good that the most fastidious critic could scarcely find fault. The programme was so well carried out, and the pieces, from beginning to end, so well performed that it is not easy for us to say which was the better.

The distribution of prizes occupied about twenty minutes, at the end of which Rev. Mr. Rousselot, of the Parish Church, eulogized the pupils on their general proficiency, and on the very great success of their entertainment. He said that their very fine singing at Mass and Vespers, during the year, had attracted the attention of all, and, no doubt, many would miss them from their accustomed places, but he hoped to see them all back again, when Vacations were over. He returned thanks to Brother Facile, the founder of the Christian Brothers in this country, and to the masters who conducted the school for their labors in bringing such encouraging results, and he hoped that their persevering endeavours to diffuse the blessings of education amongst those who were most in need of instruction—the poor—would meet with the rewards that God had promised to all who would labor "for his sake."—*True Witness*.

Brothers' School, St. Ann's Ward, Montreal.

The annual distribution of prizes took place at the above school, on Thursday, the 15, July.

The large Hall of the institution was literally crammed with the parents and friends of the pupils; and scarcely was there standing room for those who crowded the passages wishing to get a view of the performance.

The stage erected at the upper end of the Hall was very appropriately decorated with flags and banners on which were inscribed mottoes suiting the occasion. Immediately in front of the stage were placed the seats intended for the clergy and invited guests, amongst whom we noticed the Rev. Father Hogan, St. Ann's Church, who occupied the chair, Rev. Father Bakewell, St. Patrick's Church, and Rev. Father Barbarin and others of the Parish Church whose names we could not learn; Bro. Facile, Superior of the Brothers in America, Bro. Hosea, Visitor of the Brothers in Canada, Bro. Anthony, Director of the Schools of Montreal, Dr. Hingston, J. J. Curran, Esq., D. Barry Esq., P. J. Coyle Esq., and many others.

At about half-past one o'clock, the performance commenced by a Grand Overture, very artistically executed, by the Brass Band of the Brothers' boys.

The next piece on the programme, "Vacation," a chorus by the pupils, was nicely sung and brought forth frequent rounds of applause.

The singing and dramatic performances being brought to a close, the distribution of Prizes commenced. The names of the successful competitors were called out, and one after another came forward to receive, from the hands of the clergymen and visitors in turn, the rewards of their talents and industry, Rev. Father Hogan complimented the pupils on the very great progress they had made during the year in the different branches of their studies. There was one fact, he stated, that gave him great pleasure, and that was that, in solving the questions given to the various Brothers' Schools, as a test of mathematical ability—the students of St. Ann's School carried off the palm from all the others, thereby showing their greater proficiency in mathematical branches.

He impressed upon their minds, in a very feeling manner, the great obligations they were under to their masters for their endeavors to educate and make them fit to discharge the duty of any situation they may be called upon hereafter to fill in the business world.

The rev. gentleman concluded by wishing them a happy Vacation, hoping to see them all back again, when the school opened in September.—*Id*.

Deaf and Dumb Asylum.

There was given an interesting display of the progress in their studies made by the afflicted pupils of this institution, on Thursday the 1st, July. The examination was searching, and the proficiency of the pupils was most apparent. At the close of the ceremony a very interesting address was delivered by Mr. O. Dominique once a pupil of, and now a teacher in, the institution. M. Cherrier also gave a short and pithy address at the request of the Director, and the proceedings were terminated by a few appropriate words from the Reverend Canon Moreau.—Great credit is due to M. Belanger for the good results of this charitable institution upon the unfortunate Deaf and Dumb.—*Id*.

Female Institutions.—Villa Maria.

On Wednesday last, the annual distribution of prizes, medals and diplomas took place at the Convent of Villa Maria (Monklands) in the presence of a large and fashionable audience. Did space permit we would dwell on the charming *coup-d'œil*, the vast hall presented, decorated with flowers and festoons of summer foliage these latter forming a suitable back ground to the rows of graceful young girls seated in semi-circle on the elevated platform.

The introductory piece Grand Overture to Henri Quatre, was performed on six pianos and three harps, by the Misses Pouliot, Desbarats, Holden, Carr, Leblanc, Newcomb (piano) Vennor, Leprohon and Tremblay (harp). Then came a well spoken dialogue in French, followed by a musical quatuor, performers, Misses Coyle, Desbarats, Chaput, and Tremblay.

The part of the entertainment, however, which seemed to enlist most fully the interest of the audience, and which called forth the most animated and repeated applause was a Charming Operette composed for the occasion, and founded on a page from the early annals of the Congregational Convent. The personages in this latter piece were the Misses Desbarats, Leprohon and Migneault, three very attractive looking squaws, in faultless Indian costume, forming a most *piquant* contrast to their pale-face sisters, the Misses Leblanc, Kinton, Judah, Vennor, Orr, Clerk, Mullarky, Leveille, Murphy, Cunningham, Walsh and Chrystal, who attired in spotless white, took part in the same Operette. The music, vocal and instrumental, as well as the declamation, were really faultless.

The graduates were then called up to receive their diplomas, gold medals and prizes. Their names were the Misses Kinton, Joly, Leblanc, Archambault, Gordon, Walsh, Leveille, Chaput, Gauthier, and Migneault.

A brilliant Fantasia from Masaniello, for one piano and three harps followed, then honours and prizes were distributed to the young ladies of the superior course, as also of the first, second, third, fourth, fifth and sixth classes.

Special prizes were also awarded for proficiency in those all important branches of feminine education, the culinary art, domestic economy and plain needle work. Particular attention has of late years been given in this institution to those oft-neglected yet eminently useful accomplishments, and we have been assured that the taper fingers that can draw such ravishing melody from harp or piano, can ply the needle, and prepare culinary dainties with equal skill. We feel assured that in our earnest approval of this important innovation, we will not be singular, and that others, as well as ourselves, will listen in the future to the "concourse of sweet sounds," or gaze on dainty embroidery, artistically finished drawings, with all the more enjoyment, knowing that the fair beings to whom we owe the pleasure of the moment, can with equal skill, direct when called on, our homes and households.—*Montreal Gazette*, 31st June, 1869.

St. Antoine Street Academy.

Montreal owes to the Sisters of the Congregation not only the two first class educational institutions of Villa Maria and Mount St. Mary's but also two Superior Academies for day scholars and half-boarders, that of St. Denis street, and another established in St. Antoine street two years ago. At the public distribution of honors and prizes to the

pupils of the latter Academy, which took place on July 7th, we had the pleasure of assisting, and were delighted with the proficiency displayed by the pupils.

The distribution was held in the large hall at Mount St. Mary's for the sake of more spacious accommodation, and the apartment, which was gracefully decorated for the occasion with flowers and foliage, was crowded with spectators to its fullest extent. The first part of the programme was rendered by the junior pupils, and one could not help speculating, as the youngest members of the smiling band came forward, and singly or collectively, as the case might be, acquitted themselves of their different parts, either in music or recitation, of the great amount of skilful training and patient instruction the good Sisters must have bestowed on them, to have enabled the little ones to acquit themselves so well. After the distribution of prizes to the sixth and seventh classes of the preparatory course, crowns for good conduct were given, and when the happy winners of these latter honorable distinctions had re-taken their seats, some excellent vocal music followed, succeeded by a brilliant *morceau* performed on two pianos and harmonium. A French dialogue entitled "L'Étude et le Plaisir," in which the speakers well sustained their parts, was followed by another, equally well spoken, in English, "Homage a Marguerite Bourgeois." Honors of the first course were then awarded, and prizes distributed to the elder classes, as also the prizes of proficiency in religious instructions and that of good conduct. These two latter handsome rewards, as well as some others, were generously given, we understand, by the Rev. Canon LeBlanc, under whose spiritual direction the Academy is placed. There was much changing of position and stretching of necks to see who were the fortunate recipients of these latter distinctions, as well as those who obtained the honors of the first course, and we regret that owing to our not knowing the names, we cannot give them to our readers. The performances were interspersed throughout with excellent music, both vocal and instrumental, which elicited, more than once, warm applause from the audience. Very handsome specimens of fancy work, embroidery, and plain sewing were exhibited, proving that the Academy of St. Antoine, in this respect as well as in others, is certainly deserving of the favorable reputation it has already acquired.—*True Witness*.

Hochelaga Convent.

On Saturday 3rd July last, the Sisters of the Convent of Hochelaga gave a grand *Matinée Musicale* well worth noticing. Indeed, we are sorry that the unfortunate circumstance of the Superior General being sick, prevented the display of the other branches taught in this establishment.

As we arrived a little before the time appointed, one of the ladies (Sister Marie Thais) had the kindness to show us through the Establishment. It is seldom in an Institution of this kind everything is so well arranged for the comfort and health of the pupils. In this the division of the apartments is perfect. The classes, a magnificent *suite* of rooms well ventilated, are only equalled by the well divided dormitory where every convenience is to be found.

The concert was given in the grand parlour. Fifteen young ladies performed the Grand March from Czerny with an admirable *ensemble*.—Miss F. Hewbach sung the "Grand Air" from La Juive. This young lady has a pretty Soprano voice, well developed and of a pleasing effect. The overtures to *Zampa* and *Oberon* for piano, the first executed by four and the second by six young ladies, were very satisfactory, some very good Duets were sung with correctness and taste. Miss Carmel in "Le Souvenir du Théâtre Italien," was perfect; her delicacy, vigor, brilliancy, and style, in this brilliant *Morceau*, were equally demonstrated. She promises to become a first class pianist. The duet from "Trovatore," played by Misses Valois and Carmel, evinced talent, and these young ladies deserve great credit for the manner in which they executed their part.

A grand duo "Norma," by Miss Hewbach and Miss McGlynn, followed, Miss Hewbach sung well, and Miss McGlynn sung her part in this duet admirably.

The *Matinée* given at the Convent of Hochelaga does great credit to Madame Petipas, the Professor of piano and singing, at the Establishment. This Lady deserves the thanks of the Montreal public for devoting herself to imparting to others what she possesses to so high a degree, and her reputation as a Professor will certainly be on a par with her reputation as an artist.—Knowing the great difficulty of this admirable art of singing, the change effected by this lady is surprising. Purity of tone and suppleness in execution, the difficult art of breathing in proper places, without which singing ceases to be pleasing: all these Madame Petipas communicates to her pupils, but to these fine qualities of her pupils in singing, must be added that broad conception of the subject, that agility in execution, that true

accentuation which are characteristics of her pupils in the piano. Thus in a very short period, thanks to Madame Petipas, there will be here a number of first rate pianists endowed with that rarity in musical circles.—*Herald*.

Educational Endowment.

There is no subject that is so much talked about as education. Every one has an idea about it, which is more reasonable than every body else's. Every one thinks he has a right to find fault with existing systems, and sets forth his own pet theory as a panacea for all moral ills. The most ignorant School Commissioner, the most shallow diploma-furnished preceptor, the most empty-headed payer of school-rates,—each in turn has his say in the matter. None of them is satisfied. Nothing is right. "Reform it altogether" is the general outcry. And yet very few set themselves earnestly and practically to the work of reform. Here and there a teacher turns aside from the rut of custom and prejudice and puts life and energy into the ordinary dull routine of his duties, and succeeds, perhaps, in awakening an interest in the *laissez faire* fault-finders around him,—a very hard thing to do, for the most persistent grumblers are generally the most inactive and irrational when real service is required. Now and then a Parish or Municipality thus roused, may come to the point of acting out, or at least, co-operating with the teacher's plans, even, it may be, to the point of liberality. They may be brought to see that croaking, however loud and long-continued, cannot take the place of exertion and enterprise, so they furnish themselves with all needed educational appliances, material and intellectual. It is thus only that any really good schools have been established in any part of this Province; it is thus that Ontario has its regular gradation of Elementary, Model, and Grammar schools, culminating in the College and University. Local efforts,—the feeling of educational needs leading to endeavor to supply them—has been the cause of their success. In Quebec here, it is our indifference to education,—practical indifference, notwithstanding all our mutterings and bickerings— that has left us, in this respect, so far behind our co-provincials.

Every step in progress must arise *ab intra*—from conviction, from principle. No outward pressure awaits to produce a thoroughly right action, no force of example can compensate for the absence of conscientious motives. This is true in the matter of education as in everything else. If in any town or village or parish there is a poor school building, and an indifferent, because badly paid teacher, we are generally told that it is all the fault of the Government. Sometimes, no doubt, the Government is slack or one-sided. It has its sins to answer for, and we are not its apologist. But we hold that in some respects it has borne more than its merited burden of abuse. In this one of education, perhaps, amongst others. At any rate we believe that, whatever power has been brought to bear on them, our sages of the ancient capital have been trying to do their duty fairly, in this particular, for some months past, so at present we will leave the government alone.

What we wish to lay before our readers is the almost total want of public spirit displayed by our wealthier citizens, and their extreme unwillingness to put their hands into their pockets. They will grumble and fume and point to abuses uncorrected and needs unsupplied,—but when it comes to the sticking point of doing something themselves towards either correction or supply, they will not move a finger. We refer especially to the paucity and poverty of school endowment in this province. With two or three noble exceptions, none of our princely merchants have contributed anything to this purpose. It does not seem to have entered their heads as a good way of adding to the prosperity of the country. They all seem to have sought some other channels of benevolence, and yet none, we think, could be of more practical benefit to the country.

Let us take one instance to which our attention was lately directed, that of Masson College, Terrebonne, which is doing an immense amount of good, in the diffusion of sound, practical knowledge—hitherto a want among institutions of its class. Of course, it is not every one that could found so palatial a structure as the Masson College, but why not combine, if necessary? Good works do not lose their merits by being done in company, and a tolerable education might be imparted in a less imposing edifice. We merely mention it, in fact to shew what may be done by good will with ample means rightly directed. And what we deduce from its existence and present prosperity is that no place, however inconsiderable, would be without educational facilities suited to its wants, if those who ought and were able to supply them, would vie with each other in generous effort and desire to set matters right rather than in vapid declamation against existing ills.

Almost every town or village rejoices in the presence of a few rich persons whose charitable feelings are stagnant for want of some proper mode of egress. How they spend their money, though, no doubt, that is their own business, is often a mystery. Sometimes they leave it to be spent after their death with a rapidity of disbursement which they had never imagined. Now, if only such as these could be brought to invest some of their spare treasure in educational endowments, to be repaid them in thankful interest even in their lifetime, what a glorious net-work of schools and academies would cover the map of this province.

Nil durum amanti. If we really desire good and efficient education, we can have it. The Government, will do their part if we do ours.—*St. John's News* July, 30th., 1869.

Books and Current Exchanges Received.

From Dawson Bros., Montreal, Text Book of Geography, by Dr. James Douglas, Teacher of English, Edinburgh. In our next we shall take occasion to say a word of this work. From what we have read of the work we are much pleased with its matter and arrangement.

- The Maine Normal* for August.
- The Canadian Journal* for July.
- The Minnesota Teacher* for August.
- Hearth and Home* up to latest date.
- Peter's Musical Monthly* for August.
- The American Journal of Science and Arts* for July.
- The Cincinnati Medical Repertory* for July.
- Advertisers Gazette* for August.
- The Schoolmaster* for July.
- New Dominion Monthly* for August.
- The Massachusetts Teacher* for August.
- Journal of Education* (St. Louis), for July.
- The California Teacher* for July.
- The Pennsylvania School Journal* for August.
- Indiana School Journal and Teacher* for August.
- Packard's Monthly* for August and September.
- New Dominion Monthly* for September.
- The Young Crusader* (No. 9) for September.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

—*New School on Workman and Delisle Streets.*—The citizens will be glad to hear of the progress the Protestant School Commissioners in Montreal are making under the Act of last session of the Legislature of Quebec. That Act empowered them to issue debentures to build school houses and the Government of Quebec, by Order in Council, has authorized them to issue debentures to the amount of \$25,000. The interest on these debentures is to be paid on the first of May and the first of November every year, being the same days on which the interest on City of Montreal debentures is paid; and it is to be paid by the City Treasurer, the city guaranteeing the payment, and protecting itself by deducting an amount necessary to pay the interest and sinking fund, which it collects, handing the balance over to the Commissioners. The arrangement is an excellent one. The city, in fact, endorses the obligation of the School Commissioners, and manages the transaction, thus making their school bonds as good as the city bonds; and it is perfectly secure in doing so, seeing that it has the means of repayment in its own hands. There is, moreover, propriety in its doing so, as the schools to be erected are really the property of the city, and intimately connected with its welfare.

The use the Commissioners have made of the advantage thus obtained the citizens will soon see. Besides improvements to existing schools one large new School House is being erected at the extreme west end of the city one side of which will face on Workman Street, the other on Delisle Street, the school site occupying the entire space between these streets, with ample ground secured for trees and playgrounds for boys and girls respectively. The building is contracted for to be finished by the first November next, and is now very rapidly going up. Its cost, without furniture or heating apparatus, is to be \$20,000. Its length will be 97 feet, its breadth in the narrowest place 53 feet, and the extensions at the two ends 60 feet. It is to have a tower. The building material is pressed brick, with stone facing. It is intended that in the interior construction and its adaptation for the purposes of a school every improvement which science and experience have up to this day discovered shall be brought into play, and to secure the comfort, the health, and cleanliness of the scholars. Particular attention will be given to the warming and ventilation. The best teachers that can be obtained will be engaged at the highest salaries. The number of scholars to be taught in this school is calculated at 500. The school fee will be put as low as twenty cents per month per scholar, and in cases where more members than one of a family go to the school the fee will be ten cents a month for each of the others after the first.

It may be well to say a few words respecting the site selected by the Commissioners for building this school. It is on the tract of ground recently laid out by Messrs. W. Workman and A. M. Delisle for building lots, and a new town is rapidly springing up there. There are already located in this place large glass works, tin factory, Mechanic's Institute Reading Room, &c., and it will undoubtedly very soon be the centre of a dense population. The site is elevated, being on a bank of gravel five feet above the highest point the Griffintown flood has ever reached. The streets are sixty feet wide and well gravelled. Gravel furnishes one of the best road materials. For all these reasons this site has been judiciously selected by the Commissioners, and there cannot be a doubt that the opening of such a school will be a great blessing to the locality, the influence of which will be widely felt.

The Commissioners also intend to enlarge the British American School in Cotte street, so as to enable it to accommodate 500 children. This is a thoroughly well conducted school and the teaching is very effective.

The Panet Street School is also to be enlarged. The upper part of the building used as a dwelling is to be converted into a school room capable of containing 450 children. This is to be made fifteen feet high, and in every sense commodious. The intervening lots between the school and De Salaberry street are to be purchased, and the buildings on them taken down so as to obtain a place for a play ground. This school is very successful and the teachers in it are excellent.

All this progress is ground for profound satisfaction.—*Montreal Gazette.*

—*The Cost of Public Education.*—The account has been published of the sums expended out of the moneys voted by Parliament for public education in England and Wales between the 31st of March, 1858, and the 1st of April, 1868. The votes granted by Parliament were in an inverse ratio to the sums actually expended for the purposes of public instruction. In other words, while the parliamentary grants in 1858-9 amounted to £609,072 6s. 9d., and for the year ending March 31, 1868, to £573,794 5s. 4d., the actual expenditure of money derived from subscriptions, school-pence, and other sources, which in the year ending in March, 1859, amounted to £788,461 16s. 4d., in 1868, had increased to £1,021,184 0s. 1d. The total expenditure of public money during the ten years, ending in March, 1868, was £6,070,135 0s. 11½d; and this sum was supplemented by private contributions amounting to £8,991,405 8s. While the public grants for Scotland have for six years out of the decade remained nearly the same, the revenue from private sources show a healthy increase, having risen from £107,883 11s. 6d. in 1859 to £178,390 7s. 11d. in 1868. The total of the grants during the ten years for Scotland was £1,012,452 17s. 5d.

—*University of Cambridge Local Examinations.*—Lord LITTLETON presided at a public meeting held, May 14th, at the London University Buildings, Burlington Gardens, for the distribution of the certificates and prizes obtained at the last examination of students in the London centre, not members of the University. The Report of the Syndicate appointed to conduct the local examinations held in December last at 30 centres, states that 1,783 students entered, of whom 401 were girls, against 1,704 in the previous year, of whom 252 were girls. In the number of junior boys there is a decrease of about 3 per cent, and in the seniors about 20 per cent; while in the number of junior girls there is an increase of about 71, and of seniors of about 77 per cent. The per centage of failures among the seniors boys and junior girls is considerably beneath that of the previous year. About 16 per cent of the junior boys and 10 per cent of the junior girls were under 14 years of age; three of the senior boys and two girls had not completed 15 years. The subjects are English generally, religious knowledge, Latin and Greek, French, German, mathematics, chemistry, zoology and drawing. The noble Chairman, in opening the business, remarked that the Oxford and Cambridge local examinations were important features in the movement in favour of what was popularly called middle-class education. Glancing at the efforts made of late years to promote education, the institution of the system of public examinations at the two ancient Universities, its recent extension to the middle-classes, and its advantages, he turned to the report of the Royal Inquiry Commissioners, which he said had placed the whole subject of national education upon a footing altogether different from that on which it formerly stood, and added that if their recommendation should receive effect it would render it impossible that the important question of the education of the people should depend any longer upon mere voluntary effort, one of the proposals being that the whole of the endowed and the private schools of the country should be placed under some general management, which should embrace the whole country. He hoped that these local examinations would receive permanent establishment in any general measure that might be adopted because nothing could compete with the *prestige* which the high character, the antiquity, and acknowledged authority of the two great Universities of Oxford and Cambridge necessarily conferred in their certificates and honours. He recommended in order to test the efficiency of the instruction, that in future whole classes should be sent up for examination, instead of a few prominent boys from each school. He claimed credit for the University of Cambridge in having been the first to introduce an examination for girls, whose capacity for dealing with almost all educational subjects was, he believed, quite equal to that of boys. He deprecated the system of cramming, and

quoted from the report of the Syndicate to show that in too many instances the pupils sent up from some of the private schools were little better than parrot-taught, knowing nothing really of the subjects in which they were examined, while in respect to some of the girls, it was astonishing how ingenious they proved themselves in filling whole sheets of paper with well and grammatically written sentences having no meaning whatever.—*Papers for the Schoolmaster.*

—*Boston.*—The Boston Committee have voted to open a city school for deaf mutes under the charge of two Female Teachers, using the method of articulation in their instruction.

—*Westfield, Mass.*—The Normal School Building in Westfield is to be remodeled this season, with another story added, which will cost \$12,000.

—*Stoneham, Mass.*—At a recent meeting it was voted to build a new School house for the High and Grammar Schools, the entire to cost about \$20,000. and to be commenced immediately.

—*San Francisco, Cal.*—Teachers are to be employed to instruct the Chinese girls in San Francisco, where they are rapidly increasing.

—*Middlebury, Vt.*—The friends of Middlebury College have succeeded in raising an endowment fund of over \$100,000. Among the donors are John C. Baldwin, Orange, N. J., \$22,500, with the wish that it be used for the endowment of a Professor ship; and Thaddeus Fairbanks of St. Johnsbury, \$24,000 of which \$20,000 is to establish two scholarships.

—California has been organising the Faculty of her University since last winter, and has advanced so far as to have secured four Professors, but still wants the following chairs filled; Mathematics; Modern Language; Agricultural and Horticultural Chemistry; Civil Engineering and Moral Philosophy; Ancient and Modern History. They have elected Prof. John Lincoln, President, *pro tem.* at a salary of \$6,000 per an., in gold. The four Professors elect, receive a salary of \$3,600 each in gold. It is supposed the endowment will yield an annual income of near \$75,000.

Chicago proposes to spend \$795,000 on her schools, the coming year.

The Catholics in the United States have raised \$168,000 to endow the American College in Rome.

—*The Indiana School Journal and Teacher* says: "It is with no little educational State pride that we record the fact that Indiana, through her citizens, is joining her sisters in educational donations. Ovid Butler, Esq., of Indianapolis, has recently endowed a chair in the N. W. C. University, by a donation of \$10,000. Washington De Pamo, Esq., of New Albany, has within the last two years donated from \$10,000 to \$20,000 to the De Pamo College. Hon. John Purdue of Lafayette, donated last April \$150,000 to the Purdue University.

—The return ordered recently by the House of Lords, on the motion of Lord Russell, shows that in the last ten years sums amounting to £6,070,135 have been expended upon public education in England and Wales, out of moneys voted by Parliament, and in connection therewith, £8,991,405 obtained from other sources; of this latter sum, £4,554,333 came from subscriptions, and £3,241,326 from school pence. In Scotland, in the ten years, the expenditure upon public education out of moneys voted by Parliament has amounted to £1,012,452, and in connection therewith, £1,426,466 from other sources; £501,660 of it from subscriptions, and £667,985 from school pence. Of the expenditure in England and Wales, £2,650,102 went in building and administration, and in Scotland, £234,621.

—The amount required for public education, according to the estimates for the year ending March 31, 1870, in Great Britain, is £840,711, which is thus appropriated:—Administration: Office in London, salaries, £22,930 (increase on the estimate for last year, £398); extra copying, £2,000 (decrease, £500); incidental expenses, £700 (decrease, £750).—Inspection: Salaries, £36,995 (increase, £1,330); travelling allowances, £26,420 (increase, £362); poundage on Post-office orders, £450.—Elementary school, Code 1860, Scotland, augmentation of salaries of certificated masters and mistresses, stipends to pupil-teachers and gratuities to their teachers, stipends to assistant-teachers, £79,700 (increase, £1,200).—Great Britain, unexpired pensions, £560 (decrease, £20).—Revised Code, 1867, England and Wales, annual grants for day and evening scholars, £560,046 (increase, £49,367).—Great Britain, building and furnishing school premises, £38,000 (increase, £8,000).—Normal schools, annual grants to training colleges, £73,000. The details of this estimate give the salaries of 74 officers, including that of the vice-president, at £2,000; secretary, £1,500; two assistant secretaries, £2,000; ten examiners, £5,200. The details of the mode in which these sums are employed are very elaborately rendered, giving the population of school age, ages of scholars, proficiency of scholars examined, numbers of day and night scholars, school-houses built, enlarged, or improved, and number of teachers employed; of which last the total is 25,702, an increase of 2,904 upon the number of last year. The number of scholars present, on the average of the year, in Great Britain, was 1,163,368.

—*Endowed Schools Bill.*—The *Times* (June 29) thinks from the tenour of yesterday's debate in the House of Lords it may be taken for granted that the Endowed Schools Bill will become law without difficulty or delay. Another and an important advance will thus have been made towards supplying what every one admits to be one of the greatest wants of the country—a general diffusion of education. The unanimity with which the Bill, as amended by the select committee of the Commons, has been received may be taken as a proof that it does not embody the theories of very advanced reformers. There is a good deal yet to be fought over, and for some future session are reserved the controversies concerning compulsory attendance, Government control, graduated instruction, a Minister of Education, and the like. On these matters each man may reserve his opinion, and employ the time that will elapse before their reappearance in improving his knowledge of the subject, so as to be ready for it when it comes. The present Bill receives general support because it is a well-drawn measure, with a purpose on which all honest people must be unanimous.

—*Examinations in Science.*—The annual science examination of the Science and Art Department were brought to a close on Saturday, the 29th of May. This was the ninth general examination that has been held since the establishment of the system of aid to instruction in science in 1859. The examinations are superintended by local committees. They were in this way held at 437 centres this year, whilst last year they were only held at 261. At that time there were about 15,000 students under instruction, this year there were 25,000; and the number of papers worked shows a similar increase, having risen from 13,112 to 23,997. The number of candidates in the various subjects was as follows:—In geometrical drawing there were 2,547, last year there were 1,337; in machine drawing 2,997, last year 1,671; in building, construction, and naval architecture 1,993, last year 1,206; in elementary mathematics 2,302 last year 1,390; in higher mathematics 85, last year 33; in theoretical mechanics 631, last year 353; in applied mechanics 284, last year 167; in acoustics, light, and heat 1,350, last year 769; in magnetism and electricity 2,480, last year 1,038; in inorganic chemistry 2,166, last year 964; in organic chemistry 210, last year 123; in geology 609, last year 309; in mineralogy 67, last year 38; in animal physiology 2,227, last year 1,182; in zoology 303, last year 298; in vegetable anatomy and physiology 144, last year 112; in systematic and economic botany 90, last year 73; in mining 48, last year 41; in metallurgy 120, last year 81; in navigation 303, last year 219; in nautical astronomy 107, last year 86; in steam 148, last year 106; and in physical geography 2,786, last year 1,516. This is the first examination at which the scholarships of £100 per annum, founded by Mr. Whitworth, have been competed for. There have been about 120 candidates for them, and as soon as the results of all the theoretical examinations have been made known, the practical examination will be proceeded with in the manner detailed in the minutes of the Lords of the Committee of Council on Education.

—*Technical Education.*—A Conference on Technical Education took place recently in the theatre of the School of Mines, Jermyn Street, under the Presidency of Lord Elcho. Several representative working men and others interested in the question were present. The noble Chairman in his opening address said it was absolutely necessary that we should have something in the way of Technical Education, if our manufacturers and artisans were to hold their own in the face of foreign competition. Since 1851 he had taken a deep interest in art as applied to manufacture. At that time we were behind our continental rivals, but he was glad that this country took warning by what was then shown in the Exhibition in Hyde Park; and through the Kensington Schools which had been spread throughout the country a great stride had been made in bringing art to bear upon our manufactures. The subsequent exhibitions showed that our success in that respect had been very great, for unquestionably there were branches in which formerly we were inferior to our competitors, but in which we were now unrivalled as regarded art in its application to manufactures. Our earthenware and glass were superior to those of any other country, and he thought it unnecessary to dilate upon the quality of our china. But while it was a fact that we had made this improvement, it was no less true that so far as machinery and products in which this country was supposed to be unrivalled were concerned foreign countries were running us very hard, and a great deal of attention was paid to the necessity of enabling English manufacturers and artisans to compete with the foreigner, and if possible to gain supremacy in important branches of manufacture. He found that in other countries Technical Education was supplied in a great measure through the action of Government, and without being a paternal despotism in this country our Government ought to make similar provision for the requirements of our manufacturers and artisans. He thought that instead of applying for new machinery we should utilise the means at our disposal, and take advantage of facilities offered by South Kensington. The noble lord, after enforcing the necessity of compulsory primary education, referred to trades unions and their bearing upon manufactures, and expressed a hope that the Bill introduced by Mr. Hughes and Mr. Mundella would not be passed to a division this season. Papers dealing with the question of Technical Education were then read by Mr. Buckmaster and others, and several resolutions were

subsequently introduced. The movers proposed, in effect, that the Workmen's Technical Education Committee should be a permanent organization, under the name of the 'Workmen's Technical School Union'; that the necessity for providing Technical Education for their workmen and apprentices should be urged upon the great employers of labour; that the trade societies be recommended to establish Schools, Night Classes, Museums, and Libraries for the apprentices in their respective industries; and that all corporate bodies like the guilds of the City of London be asked to apply a portion of their funds to a similar purpose; that the Government be urged to establish a certain number of superior Schools of Arts and Trades, similar to those in France, for the education of foremen and other high-class workmen; that application be made for the establishment of chairs for instruction in the evening, precisely similar to that given in the day times at the School of Mines, and that provision be made in the Primary Schools for instruction in the elements of Science and Art.—*Papers for the Schoolmaster.*

LITERARY INTELLIGENCE.

—*Dr. Todd.*—The Revd. James Henthorn Todd, D.D., Senior Fellow of Trinity College, Dublin, Professor of Hebrew in that University, and Precentor of St. Patrick's Cathedral, Dublin, whose death occurred recently, at Silveraere, Rathfarnham, Dublin, was the Son of C. H. Todd, Esq., a distinguished Surgeon of Dublin. He was born in 1805. After taking the usual degrees at Trinity College, Dublin, he became a fellow of that body in 1831, and was elected a Senior Fellow in 1850. He was formerly president of the Royal Irish Academy for the usual term of five years. Endowed with great and versatile talents, Dr. Todd achieved distinction in almost every department. He was a profound Hebraist, a deeply-read Divinity Student, and in his knowledge of the Irish language, history and archaeology few equalled, none surpassed him. Dr. Todd was the author of many valuable works, and edited many ancient historical manuscripts; but the literary productions by which his name will be transmitted to posterity are his "Life of St. Patrick" and "Discourses on the Prophecies relating to Antichrist." He, at the time of his death, was also engaged in editing for the Master of the Rolls an account of the wars of the Danes and Norsemen from MSS. in the Burgundian Library at Brussels, and in the library of Trinity College, Dublin. He has published papers on the *Transactions of the Royal Irish Academy*, and was the founder of the Irish Archaeological Society.

The Indian Office Librarianship.—We see announced that among the persons likely to succeed Dr. Hall in the librarianship of the Indian Office are Dr. Badger, Dr. Goldstücker, and Professor Rost. We should like to know why a German is to be thrust into such a post when we believe we have Englishmen among us whose claims to reward for their linguistic attainments have been most unfairly disregarded, although their knowledge of Oriental language is equal, if not superior, to that possessed by any Germans here. Two of the above-named Germans, we believe, now hold similar appointments to the one just vacated by Dr. Hall. One English gentleman we may allude to as fitted to succeed Dr. Hall would be Mr Charles Wells, and we submit that if any desire exists at the Indian Office to recognize learning and native ability, his right to the appointment is incontestably higher than that which any German professor can urge. Germans have too long in this country monopolized lucrative educational posts which ought to have been bestowed as encouragements on our countrymen, whose claims have been hitherto shamefully neglected. We trust the Duke of Argyll, in filling up Dr. Hall's vacancy, will at once see the necessity of considering the claims of some Englishman such as Mr. Wells; for, with regard to him, we can safely say that his proficiency in Oriental languages is not surpassed, if, indeed, it is equalled, by that of the most renowned German professors.—*Morning Star.*

—The eightieth annual festival of the royal Literary Fund, took place recently under the presidency of Lord Stanley. Several persons not much known for their services to literature, including Lord Colchester, Lord Stafford de Redcliffe, Reverdy Johnson, and Lord Justice Giffard, delivered speeches. The subscriptions announced amounted to about £1,100.

—*Dr. W. H. Russell* who accompanied the Prince and Princess of Wales on their visit to Egypt, Turkey, Greece and the Crimea, is preparing for immediate publication a narrative of his tour.

—*Burns' Cottage.*—Some alterations have recently been made in Burns' Cottage, Doonside, by the Corporation of Shoemakers of Ayr, who are in the possession of the interesting "Biggin." The establishment of the place as an inn has proved a great convenience to accommodation, it has been felt desirable that the cottage should not be wholly appropriated as a place of public entertainment. With this view, one of two apartments has been fitted up for the exhibition and sale of Mauchline wood-work and other objects of interest, and to this purpose it is to be entirely devoted. The kitchen is still preserved in its original state. In the course of the alterations it was necessary to remove one of the old beams of the cottage, and from the little sound wood that remained in this the corporation have succeeded in getting a few ornamental articles made for distribution as mementoes of the place.

—*Bismarck*—made a translation of the first six books of the *Æneid* twenty-six years ago. It is to be published this autumn.

—*Mr. Tennyson*,—we hear, has a new volume nearly ready, on which he has been engaged for some months past. It will be published by Messrs. Strahan & Co.

—The first newspaper printed in America was issued in Boston, April 4th, 1704. Only one complete copy is in existence.

—"*Early Years of the Prince Consort.*"—Her Majesty has been graciously pleased to present a copy of this work, with the royal autograph on the fly-leaf, to the Radcliffe Infirmary, Oxford.

—The death is announced of Mr. Peter Cunningham, whose name is familiarly known in connection with literature. He was the eldest son of Allan Cunningham, the poet. In early life he was presented by the late Sir Robert Peel to a clerkship in the Audit Office, where he afterwards rose to a high position, but he retired from the public service in 1860. He was lately engaged on a new edition of Pope, in conjunction with the Right Hon. J. W. Croker. He was a large contributor to the *Athenæum*, *Fraser's Magazine*, and other periodicals.

SCIENTIFIC INTELLIGENCE.

—*Longitude determined by Telegraph.*—It is thought, the *Athenæum* says, that the time has arrived when the longitude of places in England, especially of our principal ports, should be determined by electric telegraph. If this were systematically carried out, the errors or discrepancies which at present exist would be corrected, as when the difference of longitude between Greenwich and Cambridge was ascertained in 1828, by geodetic measurement, the observatory at Cambridge was 24''·6 east of Greenwich; but the Chronometer proved it to be 23''·24, a difference of 1''·06.

A similar rectification might of course be made for every place within the four seas by telegraph; and if the longitude of all the ports were known to a certainty, a ship's departure could be taken with more confidence than at present. The question is interesting and important, and may be said only to need discussion to bring it to a practical solution. Perhaps the astronomer Royal will take it in hand when the telegraphs of the Kingdom shall have passed into the hands of the Government.

—*The United States Coast Survey.—Interesting Experiments.*—For some time past, the United States Coast Survey officers, have been engaged in making astronomical observations between Cambridge University and the cities of the West, using the telegraph to aid in their labors. In order to arrive at the mean time between the Atlantic and the Pacific, the one represented by Boston and the other by San Francisco, the wires of the Western Union Telegraph have been nightly brought into use for nearly a month past. The wires were connected with a chronometer at Cambridge in such a manner that the main circuit is broken and instantly closed again at every beat or tick of the time-piece and the result is that each second of time, as marked by the chronometer at Cambridge, goes forth from the university on the Atlantic coast, with almost the speed of light itself, hurries on over the magic wire, passing through intermediate cities, towns, and villages, across rivers, over mountains and along the open country, until it finally reaches the recording instrument on the Pacific coast, in all its original fullness of pulsation. Think of it once! The ticks of a clock in Boston are heard and recorded in San Francisco almost in the same instant that they reached the ear of the observer in the first named place!

So perfect were the connections and the workings of the wires that had any one gone into the office of the Western Union Telegraph in this city, at any time during the time when the experiments were going on, he could have heard the ticking of the Chronometer at Cambridge, as the signals were rapidly transmitted to the Pacific seaboard. For five minutes the tick! tick! tick! goes on, and then all is quiet. Presently San Francisco telegraphs Boston "All right; your second signals came good and have been recorded for five minutes; Go ahead five minutes more," Again, tick! tick! tick! for five minutes, and then San Francisco says again: "All right, are you ready to take my signals?" And the answer from Boston is: "Yes, go ahead." "Tick! tick! tick!" says San Francisco for the allotted five minutes, and Boston says, in his turn: "All right!"

The signals are perfect, yet the question is not solved. The loss of time in the transmission of the signals between one point and another is to be computed, and the experimenters have the problem of how to measure that time for solution. This is, however, only a small part of the labor. Another wire is switched on at Coston, a repeater is added, and the question is solved. In a trifle less than sixty seconds, one minute, the signals go to San Francisco and return to Boston, having travelled about six thousand miles.

The experiments are now closed, but they have been entirely successful. The route is from Boston through Albany, Buffalo, Cleveland, Detroit, Chicago, Omaha, Cheyenne, Salt Lake City, Virginia City in Nevada, to San Francisco and return.

This triumph of art over what appeared to be insurmountable difficulties has been the greatest yet recorded, inasmuch as space so to speak, has

been totally annihilated. The true difference in the mean time between the two points has not yet been fully announced.—*Scientific American*

—*Warmth From The Stars*—It would scarcely be thought by most persons that the stars supply the earth with an appreciable amount of heat.

Even on the darkest and clearest night, when the whole heavens seem lit up by a multitude of sparkling orbs, the idea of heat is not suggested by their splendour. It will therefore, seem surprising to many that men of science should assign no inconsiderable portion of our terrestrial heat-upply to those distant twinkling lamps. It is not many years since Professor Hopkins, of Cambridge, went even farther, and expressed his belief that if the earth's atmosphere were but increased some 13,000 yards in height, so as to have an increased power of retaining the warmth poured upon it from outer space, we might do without the sun altogether so far as our heat-supply is concerned. As a glass house collects the sun's heat and renders it available during the time that the sun is below the horizon so he held that the additional layer of air would serve to garner the warmth of the stars in quantities sufficient for all our requirements.

But until lately all these views, however plausible they might have seemed, had not been founded upon facts actually observed. It has been reserved for these days in which discoveries of the most unexpected kind are daily rewarding the labours of our physicists, to see that established as a certainty which had before been founded merely upon considerations of probability. Mr. Huggins, the physicist and astronomer, has just published the results of a series of inquiries addressed to the actual measurement of the heat which we receive from the leading brilliants of the nocturnal sky. The instrument called the galvanometer, which has been made more or less familiar to many of us by the researches and lectures of Mr. Tyndal, was made use of by Mr. Huggins in these investigations.

We need not consider the construction of this instrument, or the manner in which heat acts upon it through the agency of what is called the thermo-electric pile; all that is necessary to be known is the fact that the qualities of the instrument as a measurer of delicate heat-effects, are thoroughly established, so that no doubt can exist as to the significance of its indications. The instrument was fixed to Mr. Huggins's large refractor, so that the image of a star formed by the 8-inch object-glass might fall upon the surface of the thermopile. It will give some token of the care required in researches of the sort to mention that the apparatus had to be left attached to the telescope for hours, sometimes for days, until the needle whose motions mark the action of heat had come to perfect rest. When the time came for making an observation, the shutter of the dome which covers the telescope was opened, and the telescope was turned upon a part of the sky near to some bright star, but not actually upon the star when the needle was watched to determine whether the change of position had produced any effect. For clearly it is necessary, in a case of this sort, to see that no cause except the one to be examined is exercising any influence. If in four or five minutes, no signs of change were shown, the telescope was moved over the small distance necessary to bring the image of the star directly on the face of the pole. Almost always, the needle began to move as soon as the image of the star fell upon it. The telescope was then moved slightly away again from the star; the needle was then seen to return to its place. In this way, from twelve to twenty observations would be made upon the same star, so that no doubt might remain as to the motion of the needle being really due to the star.

In this way it was found that the bright Arcturus moved the needle three degrees in about a quarter of an hour. So did Regulus, the leading brilliant of Leo, the constellation at present adorned by the splendour of ruddy Mars. Pollux gave a deflection of $1\frac{1}{2}$ degree; but, singularly enough, his twin brother Castor produced no effect at all upon the needle. The splendid Sirius gave a deflection of only two degrees: but as the star is always low down, and so shines through a greater proportion of the denser atmospheric strata, it is not surprising that its heat should not be proportioned to its brilliancy.

These inquiries are singularly interesting, the more so when we remember that the full moon, which outshines so many fold the stellar glories of the heavens, gives us either no warmth whatever, or so little that no experiments have ever certified us that we receive any from her. Mr. Huggins has tried the moon with his powerful galvanometer, with results which are not by any means satisfactory or accordant, but which are sufficient to show that we receive scarcely a trace of heat from the pale faced orb.—*Express*.

—*Comets' Tails*.—Theories by scores, and wild enough to make a philosopher's hair stand on end, have been proposed to account for the formation of comets' tails. Herschels, and Airys are pestered with them, whenever a bearded star makes its appearance; and almost invariably the proposers are in a state of utter ignorance regarding the working of physical laws. It will be a treat to the astronomers to discuss a hypothesis which, if it should not eventually prove true, is at least philosophical, and based upon data acquired by experiment. Professor Tyndall has developed a cometary theory out of his late researches upon the actinic power of light. It will be remembered, says *Once a Week*, that he has found that a beam of light is capable of forming a bright glowing cloud in its course through a space containing a modicum of vapour, the said cloud being first reduced

by the chemical action of the light, and then rendered visible by illumination of the condensed particles.

The application of this principle to the explanation of cometary phenomena is as follows:—A comet is held to be a mass of vapour decomposable by the solar light, the visible head and tail being an actinic cloud resulting from such decomposition. The tail is not matter projected from the head, but matter precipitated on the solar beams which traverse the cometary atmosphere; nothing being carried from the comet to form the tail, but something being deposited from the interplanetary space through which the body is coursing. But this explanation supposes that the sunlight has a different power when it has passed through a vapoury comet to that which it possesses when it has traversed no such medium; otherwise all space would be lit up like a comet's tail. To account for such a peculiar property, Professor Tyndall assumes that the sun's heating and chemical powers are antagonistic, and that the calorific rays are absorbed more copiously by the head and nucleus than the actinic rays. This augments the relative superiority of the actinic rays behind the head and nucleus, and enables them to bring down the cloud which constitutes the tail. Thus the caudal appendage is in a perpetual state of renovation as the comet moves through space; the old tails being dissipated by the solar heat as soon as they cease to be screened by the nucleus. Nearly all the phenomena observed in those mysterious bodies are accounted for by Dr. Tyndall. One, however, he has not mentioned: I allude to the peculiar luminous envelopes, familiar to comet-gazers, which surround the nucleus like a series of cloudy glass cases. No theory can be called complete which does not account for those remarkable and evidently important features.

—*Absorption of Light by the Air*.—Professor H. Wild has continued his interesting investigations upon this subject in Germany, and the conclusion at which he has arrived is highly remarkable. The *Scientific Review* states, he finds that dry air is rather more transparent than damp air, though common observation of the clearness of the atmosphere after a shower, or in dry weather without fog would induce a contrary belief. He gives for the coefficient of dry air, quite exempt from dust in suspension, and seen through thickness of one meter at 10° C., and 719 millimètres of pressure $a=0.99178$. In air likewise deprived of dust, at 13° C. and 719 m. m. pressure, but saturated with damp, $a=0.99030$. It is therefore evident that in ordinary circumstances, dust in suspension in the air diminishes its transparency in a very marked manner, and that if the atmosphere appears more transparent after a shower, it is because it is cleansed of this dust, and not, as some have thought, because it is saturated with damp.

Professor Tyndall delivered his fourth lecture on "Light." last week, at the Royal Institution. He said that the fluid luminiferous ether was the principle of light and heat. Of the seven colours composing the solar spectrum, red was the warmest, and violet the coldest. Red was the slowest of all in producing impressions on the vision, and violet the swiftest. The eye as an optical instrument was useless—it was the brain which formed the vision. Magnesium light could be made capable in its intensity of setting fire to the whole of the metropolis; it would reduce to ashes instantly all substances exposed to its foci, yet it had no injurious effect upon the human eye. Any individual primitive colour was capable of counteracting the light of the other and had the greatest sympathy with substances of its own hue.

—The Royal Geographical Society has given graceful testimony to the value of Mrs. Somerville's labour in the field of Science, by awarding to her the Victoria Medal of the Society, for her Treatise on Physical Geography.

—*Padre Secchi*.—It is announced that P. Secchi intends to sum up, in a work which is already announced, his latest discoveries with regard to the spots on the sun. The conclusions of the learned Jesuit are, that the maximum appearance of the number of spots occurs once in nearly every ten years; that the spots are cavities filled with heavy metallic vapors forming the solar atmosphere; that the quality of these substances being the same as that of the general mass of the more subtle atmosphere which we see above on a level with the cavities, the difference of appearance proves the diversity of density; that the most brilliant photosphere is composed of matter held in suspension in the gaseous solar atmosphere, in a state of precipitation, solid or liquid, as we see vapor remain suspended in the air; that the degrees of luminous intensity, observed in different regions, of the spots and their nuclei, can be explained by the greater or less number of the strata of vapor, which lie one above the other at different heights.

—*The Age of Writings in Common Ink*.—Mr. F. Carré has communicated to the French Academy remarks on an approximate determination of the age of writing made with ink having like those in common use an iron base. He says, that writing, eight or ten years old may be copied with an ordinary press, if the copying paper is moistened with water to which one twelfth of hydrochloric has been added.

In this case the copying is almost as easy, as when it is done upon fresh writing in the usual way. The facility of the copying process diminishes

with time, and a writing thirty years old did not give a legible copy, while one dating 1787 scarcely yielded a perceptible trace.

When writings are washed with, or soaked in dilute hydrochloric acid of the strength mentioned, an inverse action is noticed. Those made from a few months to ten years ago disappear after an immersion of from a few hours to a few days, while a writing thirty years old could be read after fifteen days maceration. When copies are made with acidulated paper, they should be held over a dish containing liquid ammonia for a few seconds to neutralize the acid.

—*A Cure for Somnambulism.*—Professor Pellizzari, of Florence, has hit upon a cure for somnambulism. It simply consists in winding once or twice round one's legs, on going to bed a thin flexible copper wire, long enough to reach the floor. Eighteen somnambulists treated in this way have been either permanently or temporarily cured. The *Gazzetta Medica* of Venice, which reports the fact, says that copper wire is known to dissipate magnetic somnambulism, and that this circumstance led the professor to have recourse to this strange remedy.

ARTS INTELLIGENCE.

—*The National Portrait Gallery.*—The twelfth report of the Trustees of the National Portrait Gallery was published on March 23. The list of seventy-four donations, given in former reports, is continued, as follows:—William Pitt, first Earl of Chatam, 1708—1778; painted by Richard Bromton (a repetition of the picture now at the Chevening); presented June, 1868, by Earl Stanhope. William, first Earl of Craven, 1606—1667 painted by Honthorst; presented December, 1868, by the Earl of Craven. Sir Henry R. Bishop, the musical composer, 1786—1855; painter unknown; presented February, 1869, by Mrs. C. H. Smith. The purchases were stated by the Trustees in their former report as amounting to 178. They are now increased to 203. The total number of visitors to the gallery during the year 1868 was 25,344, being 692 in excess of the previous year, and 678 in advance of the year 1866.

—Ancient Medals of great historical value have recently been discovered in excavations made in the vicinity of Tarsus in Asia Minor. The medals were struck A. D. 230 in honor of Alexander the Great, by order of the Emperor Alexander Severus, and contain portraits and symbolic heads of the conqueror of the ancient world.

The Emperor Napoleon has paid \$10,000 for four of these medals, and presented them to the Imperial Library of Paris.

—A Clock has been completed for the Cathedral of Beauvais, France which far surpasses all the existing specimens of the clockmaker's art.

It contains no less than 90,000 wheels, and indicates, among many other things too numerous to recite, the days of the week, the month, the year, the signs of the zodiac, the equation of time, the course of the planets, the phases of the moon, the time at every capital in the world, the moveable feasts for a hundred years, the saints' days &c &c.

Perhaps the most curious part of the mechanism is that which gives the additional day in leap year, and which consequently is called into action only once in four years. The clock is wound up every eight days. The main dial is twelve feet in diameter, and the total cost exceeds \$50,000.

—*House Decoration.*—At the Society for the Encouragement of the Fine Arts, Dr. Dresser gave a lecture, the subject of which was how to decorate and garnish a house from an art point of view. The lecturer commencing with the general principles that all art should be truthful in its utterance, all decorated objects appear to be what they are, and all excessive decoration avoided, proceeded to point out how this might be carried out in the furnishing and embellishment of a house. Amongst his suggestions were the following:—That of a creamy buff colour, with stars stencilled upon it, to replace the cold whiteness of our ceilings; the rejection of floral mural patterns that aped relief, being mere repetitions or pictorial objects, and therefore objectionable as backgrounds. In lieu of these last he recommended simple patterns having a bloomy effect, and he concluded his discourse by impressing upon his audience the importance of seeking after general harmony, and cautioning them against strong colours in larges masses, repose, not glitter, being the great object.

—The French Mint is at present occupied striking medals in commemoration of the centenary of Napoleon the First. Proofs of the medal have been submitted to the Emperor. Every blood relative of the Napoleon family will be presented with this medal in gold, silver ones being reserved for courtiers and distinguished strangers

—Nearly six thousand visitors paid their shilling at the exhibition of the Royal Academy on the opening day, and catalogues were sold to the amount of about £150. Add the free list to the number, and it will not be surprising that the galleries, spacious as they are, were at some parts of the day somewhat overcrowded.

—Mr. Boxall, R. A., has resigned the post of director of the National Gallery, which he has held since the death of Sir Charles Eastlake.

—A prize of \$30,000 has been instituted by the French Academy of Fine Arts to be given every year to the Artist whose work shall do the most honor to France.

—A Museum of Natural History is to be established in Central Park, New York City, \$50,000 having already been subscribed for that purpose. The Commissioners of the Park have offered the use of the large hall of the Arsenal Building as a place where the collections may be deposited until a suitable structure can be erected. It is proposed to erect a museum building on Ninth Avenue.

—T. G. Appleton of Boston, now in Rome, has purchased the collection of engravings, ten thousand in number, of the late Cardinal Tosti, and presented them to the Public Library of Boston.

—*Statue of the Queen for Montreal.*—This colossal statue was cast at the foundry of Messrs. Holbrook & Co., Chelsea. The figure, which is 10ft. in height, was designed by Mr. Marshall Wood, and is an admirable representation of her Majesty, who stands in an erect and commanding position, crowned and clothed in a classic manner, a wreath of oak-leaves and acorns being held in one hand. The statue has been cast in Florentine bronze metal, which consists of forty-five parts copper, fifty parts fine yellow brass, four parts tin, and one part antimony. This mixture produces a yellow metal having a rosy tint, and which is capable of taking a brilliant polish. One part of the mould gave some trouble and that was the wreath, which from its intricate foliage entailed considerable complication. Skill and perseverance, however, overcame all difficulties, and enabled the statue to be run in one piece—a point of great importance in this class of casting.—*The Engineer.*

—The progress of excavations at Rome, commenced last winter by Mr. H. Parker, F. S. A., has been resumed in the neighbourhood of the Esquiline Hill. By permission of Baron Visconti, the search is to be resumed for the remainder of the "Marble Plan of Rome," which if it can be recovered, will settle very many disputed questions as to the actual sites of several of the temples and other public and private buildings which have hitherto been so many bones of contention among antiquaries. Mr. Parker himself writes: "I have reason to expect that the crypt of the Church of San Podenzia will also be emptied this season by the Roman authorities themselves, and not at our expense. I have been invited also to clear out the 'house of Sallust', but we must wait for that also until funds are replenished. The excavations at the Porta Cassena, and the Templum Urbis Romæ are now going on. We have found the doorway of the time of Hadrian, and the pavement of the street on which it opened. There was a cross street on the south side of the Temple. The marble Plan was on the east wall, and is now in another property." He adds, that, in his opinion, another excavation ought to be made at the Porta Trigemina. We hear also of two very interesting excavations in Rome, now in progress by the Papal Government; the one the Marmorata, the old Roman marble landing-place, upon the banks of the Tiber, not far from the Temple of Vesta; and the house of Polione; adjoining the baths of Cavacalla, where, at the depth of some 30 ft. or 40 ft., the workmen recently came upon some elaborate frescoes and statues and exquisite mosaic floors, at two separate ends of a vine-yard. The intermediate portion, it is fully expected, will bring to light the entire residence of a wealthy Roman citizen.

MISCELLANEOUS INTELLIGENCE.

—*COLONIAL HONOURS.*—*The Order of St. Michael and St. George.*—The *London Gazette* contains three Orders of the Queen in Council, in which the following appointments are made in connection with this Order:—

To be Knights Grand Cross: The Duke of Edinburgh, the Earl of Derby, Earl Grey, Earl Russel, and Lord Monck, late Governor-General of Canada.

To be Knights Commanders: Mr. Francis Hincks, C. B., late Governor of British Guiana; Mr. James Walker, C. B., Governor of the Bahama Islands; Major-General Charles Hastings Doyle, Lieutenant-Governor of Nova Scotia; Mr. Paul Edmund de Stezeiecki, C. B.; Lord Lytton, the Right Honorable Frederick Peel, the Right Honorable Charles Bowyer Adderly; Sir Frederick Rogers, Bart.; Sir Hercules Robinson, Governor of Ceylon; Mr. Alexander Tilloch Galt, late Minister of Finance in the Dominion of Canada; Mr. Henry Taylor, of the Colonial Department; Mr. Thomas Frederick Elliott, late Assistant Under-Secretary of State for the Colonies; and Colonel Thomas Gore Brown, C. B., late Captain-General and Governor-in-Chief of the Island of Tasmania.

To be Companions of the Order:—Mr. Charles Cowper, late Chief Minister of New South Wales; Mr. William Charles Gibson, late Colonial Secretary of Ceylon; Mr. Felix Bedingfield, late Colonial Secretary of Mauritius; Mr. John Bayley Darval, late Attorney-General of New South Wales; Mr. John Sealy, Attorney-General of Barbadoes; Mr. John Lucie Smith, Attorney-General of British Guiana; Mr. Thomas Skinner late Civil Engineer and Commissioner of Roads for the Island of Ceylon, Mr. Theophilus Shepstone, Secretary of Native Affairs in Natal; Mr. Ferdinand Mueller, Government Botanist for the Colony of Victoria, Mr. Macleay, of New South Wales.

METEOROLOGICAL INTELLIGENCE.

— Meteorological observations taken at Quebec during the month of July, 1869—Lat. 46°48'30" North; Longitude 71°12'15" West; height above St. Lawrence, 230 feet; by John Thurling, A. H. C., Quebec.

Barometer, highest reading on the 31st.....	30.069 inches.
" lowest " 11th.....	29.099
" range of pressure.....	.970
" mean for month reduced to 32°.....	29.585
Thermometer, highest reading on the 26th.....	88.2 degrees.
" lowest " 1.....	47.1
" range in month.....	41.1
" mean for month.....	67.9
" mean of maximum in sun's-rays, black bulb..	114.8
" mean of minimum on grass.....	55.9
Hygrometer, mean of dry bulb.....	69.8
" wet bulb.....	63.2
" dew point.....	58.2
Elastic force of vapour.....	.485 inches.
Vapour in a cubic foot of air.....	5.3 grains.
" required to saturate, do.....	2.7 "
Mean degree of humidity (Sat. 100).....	66
Average weight of a cubic foot of air.....	515.8 grains.
Cloud, mean amount of (0-10).....	6.6
Ozone " " (0-10).....	2.3
Wind, general direction.....	S. W. and W.
Mean daily horizontal movement.....	119.6 miles.
Rain, number of days it fell.....	18
Amount collected on ground.....	5.06 inches.

— From the Records of the Montreal Observatory, Lat. 45° 31' North; Long. 4h. 54m. 11sec. West of Greenwich, and 182 feet above mean sea level for July, 1869,—By Charles Smallwood, M.D., LL.D., D.C.L.

DAYS.	Barometer corrected at 32°			Temperature of the Air.			Direction of Wind.			Miles in 24 hours.
	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	
1	29.811	29.800	29.701	53.1	59.7	56.0	w	w	w	89.90
2	.652	.657	.661	60.1	73.2	66.0	w	w	w	261.10
3	.570	.611	.450	63.1	77.3	70.1	w	sw	sw	197.29
4	.449	.617	.764	67.1	84.0	60.0	sw	w	w	104.00
5	30.000	.991	.989	55.7	78.2	60.1	w	sw	w	84.11
6	.049	30.021	.974	60.0	76.2	67.0	w	w	w	91.00
7	29.961	29.866	.849	59.4	80.3	69.1	w	w	w	101.40
8	.827	.790	.700	65.0	60.0	67.0	sw	sw	sw	88.00
9	.601	.569	.571	64.1	65.0	63.4	ne	ne	w	79.11
10	.610	.619	.511	61.7	75.2	67.2	w	w	w	161.74
11	.275	.411	.612	70.0	74.1	65.0	w	w	w	120.14
12	.747	.805	.850	60.1	77.4	63.9	w	w	w	217.10
13	.911	.874	.851	59.4	73.2	63.0	w	w	w	92.24
14	.800	.798	.800	60.1	75.6	68.4	w	e	e	88.12
15	.748	.704	.663	66.2	73.0	70.6	e	w	w	90.11
16	.525	.501	.503	68.9	77.1	68.7	sw	sw	sw	104.12
17	.681	.642	.660	64.0	73.0	60.4	w	w	ne	191.12
18	.691	.675	.710	67.2	80.3	69.2	wby n	w	w	89.79
19	.799	.800	.800	59.3	79.0	62.2	ne	ne	ne	101.10
20	.761	.700	.662	59.0	79.1	70.0	ne	sw	sw	89.76
21	.576	.558	.564	68.2	74.7	64.1	sw	w	w	104.29
22	.650	.774	.800	62.7	75.9	65.2	w	w	w	127.91
23	.801	.811	.825	61.7	74.7	66.2	w	w	w	201.10
24	.799	.750	.750	68.9	67.3	68.7	sw	sw	sw	97.74
25	.800	.781	.801	58.7	76.1	72.9	w	sw	w	97.29
26	.760	.711	.698	70.1	84.4	72.0	w	sw	w	87.24
27	.700	.697	.700	68.3	81.1	69.1	w	w	w	101.12
28	.700	.697	.661	68.0	75.0	69.1	w	w	w	108.00
29	.584	.551	.589	66.0	66.0	63.3	sw	w	w	100.44
30	.764	.901	30.042	60.2	68.3	61.7	w	w	wby n	124.11
31	30.250	30.219	.300	61.0	73.4	68.3	w	w	w	119.00

REMARKS.

The highest reading of the Barometer was on the 31st day, and indicated 30.200 inches; the lowest reading was on the 11th day, and was 29.275 inches, giving a monthly range of 1.145 inches.

The mean temperature of the month was 68° 31 degrees, which is 5° degrees lower than the Isotherm for Montreal, and 7° 69 degrees lower than the mean temperature of last July.

Rain fell on 13 days, amounting to 4.995 inches, which exceeds by nearly 3 inches the amount which fell in July, 1868.

ADVERTISEMENTS.

McGILL UNIVERSITY.

MONTREAL—SESSION 1869-70.

FACULTY OF ARTS. — The classes will re-open on MONDAY, SEPT. 20.

FACULTY OF MEDICINE. — The classes will re-open on TUESDAY, NOV. 2nd.

FACULTY OF LAW. — The classes will re-open on TUESDAY, NOV. 2nd.

The Calendar of the University, containing all necessary information, may be obtained on application, post-paid, to the undersigned.

W. C. BAYNES, B.A.
Secretary McGill College.

PRACTICAL GEOLOGY AND MINING

Young men desiring to qualify themselves for Geological Exploration or the Management of Mining Operations, may be admitted as Partial Students in MCGILL COLLEGE, and will have the benefit of the courses of Geology, Mineralogy, Chemistry, Physics, Mathematics, as well as courses in Metallurgy and Mining. The classes will commence on MONDAY, SEPT. 20.

For information as to details, apply to the Principal of the University, or to the undersigned.

W. C. BAYNES, B.A.
Secretary.

McGILL NORMAL SCHOOL.

The THIRTEENTH SESSION of this SCHOOL will commence on WEDNESDAY, SEPT. 1st, 1869.

Candidates for admission must be 16 years of age, of good moral character, and must come under obligation to teach for three years in some public school in the Province of Quebec. They must pass an entrance examination in Reading, Writing, and the Elements of Arithmetic, Grammar and Geography.

On complying with the above conditions, they will be recognized as Teachers in Training, and as such will be entitled to free tuition, with the use of text books, and to bursaries in aid of their board, in the case of those not resident in Montreal.

At the close of the first year of study they may apply for examination for Diplomas giving the right to teach in Elementary Schools; and after two years' study, or if found qualified at the close of the first year, they will, on examination, be entitled to Diplomas as Teachers of Model Schools. Students having passed their examination in the Model School Class or having advanced to the requisite knowledge, may go on to the Academy Class, and on examination, may obtain the Academy Diploma.

The announcement of the School, containing all necessary information and terms of application, may be obtained of the undersigned.

W. C. BAYNES, B.A.
Secretary.

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