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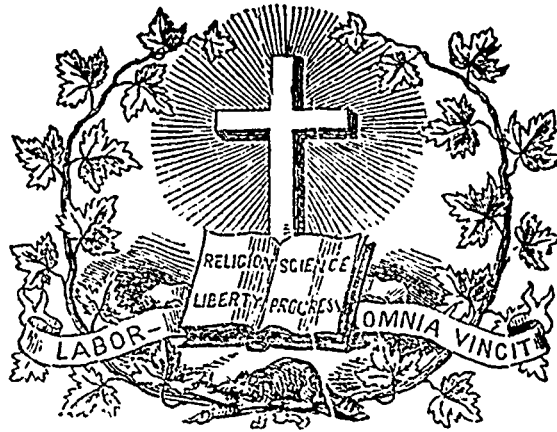
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SUMMARY.—LITERATURE.—Poetry: Memories of school days. Cowper.—What a teacher should be.—Will's first speech by Sophie May.—**EDUCATION.—**Graduation in teaching and training, (continued from our last).—The study of nature, abstract of a lecture by professor Agassiz.—Accuracy in teaching.—Pleasant echoes.—**OFFICIAL NOTICES.—**Erection and division of school municipalities.—Donations to the library of the Department.—Situations wanted.—**EDITORIAL.—**Examinations and distributions of prizes.—McGill University.—Extracts from the reports of the Inspectors of school for 1859 and 1860, (continued).—List of honours awarded in the McGill Normal School.—**MONTHLY SUMMARY.—**Educational intelligence.—Miscellaneous intelligence.—Literary intelligence.—Scientific intelligence.—Fine Arts and Industry.—Statistical intelligence.

LITERATURE.

POETRY.

MEMORIES OF SCHOOL-DAYS.

Be it a weakness, it deserves some praise,
We love the playplace of our early days;
The scene is touching, and the heart is stone,
That feels not at that sight, and feels at none.
The wall on which we tried our graving skill,
The very name we carved subsisting still;
The bench on which we sat while deep employed,
Though mangled, hack'd, and hew'd, not yet destroyed,
The little ones, unbutton'd, glowing hot,
Playing our games, and on the very spot;
As happy as we once, to kneel and draw
The chalky ring, and knuckle down at law;
To pitch the ball into the grounded hat,
Or drive it devious with a dexterous pat;
The pleasing spectacle at once excites
Such recollection of our own delights,
That, viewing it we seem almost to obtain
Our innocent sweet simple years again.
This fond attachment to the well-known place,
Whence first we started into life's long race,
Maintains its hold with such unflinching sway,
We feel it even in age, and at our latest day.

COWPER.

WHAT A TEACHER SHOULD BE.

A polished man; so affable and mild,
His very grace should awe the rude and wild;
His smile win love, his slightest frown bring tears,
His gentleness dispel the coward's fears;
His just discernment make no partial choice:
'T is plainest bird that pipes with sweetest voice.

A learned man; with skill to grasp the lore
Once but the sages' hieroglyphic store;

To strip the glorious stars of myths and signs,
And teach how God's great wisdom through them shines.
To pluck the flowers, and show his skill who made
The modest violet and the velvet blade;
To smite the rock, and by its sparkling grains
Unfold its nature—born of seas and plains,
To range the universe with varied skill,
And mould rich thoughts to beauty at his will.

A social man; not he whose stately walk
Keeps pompous time to high resounding talk,
Gains the sweet homage of the unfolding mind—
A trust more sacred than the wealth of Ind,—
But that rare teacher who the lowliest makes
A sharer in his joys, and warmly takes
The little poor boy's hand with zest as great
As though his father steered the 'ship of state'.

A Christian man; all princely virtues meet
In one who sitteth at the Savior's feet;
Though honors crown, though wealth encompass him,
Their splendor in religion's light grows dim.
Wealth without Christ is but a scorpion-rod,
There is no honor like the love of God.

So should he teach; in every lesson find
Some precious grains for the immortal mind,
And lead his charge not only up the height
Of great Parnassus, with its founts of light,
But to high Heaven, where he one day may stand,
A godlike teacher, with a godlike band.—*Educator.*

Will's First Speech.

BY SOPHIE MAY.

"Hurrah!" cried William Lawrence, rushing into the house like a hurricane. "I'm on the affirmative! The boys are all as mad as March hares about it, I can tell you!"

"Why, what for?" said Rose, coolly, as she continued to paste her scrap-book.

"What for?" echoed Will, with the look of an older brother who pities a sister's ignorance. "Why, to think I'm put on the question instead of one of the rest, my dear! There has n't a boy in our class spoke in the Lyceum yet," added he, jerking his sister's elbow by way of pointing the remark. "I suppose you know that, do n't you?"

"I know you do n't talk grammar," returned Rose, "and I know you have made me drop a great blot of paste on my book. See there!"

"Well, do n't fuss! Just reach me the big dictionary, won't you? I've got to work, I tell you! I'm going to read up from the foundation of the world, down to the battle at Island Number Ten.—Where's 'Plutarch's Lives?'"

"Do tell me, have you got to speak on Ancient History?" said Rose, looking up.

"Of course not, child! Question reads: 'Resolved, that the fear of punishment has a better effect on mankind than the hope of reward.' I argue that it has. I think exactly the reverse, mind you; but when we make speeches, we do it for the sake of argument, you see."

"Do *you*?" laughed Rose. "Well, I suppose the fact is, you want me to help you write your speech—that is what you were going to say, is n't it?"

"Me?" said Will, in dignified amazement. "Great help you would be! You can write 'moonlight' pieces, and such nonsense, for the Lyceum paper; but what do you know about logic? Now, you see, this sort of thing just suits my turn of mind, Rose.—I'm going off into the library, and do n't you let any one disturb me till supper-time. I shall write like a telegraph, for my mind is in the potentia! mood, present tense."

Rose pressed her lips together just in time to prevent a provoking smile. She had her own private convictions as to the success Will would have in writing. She remembered certain 'compositions' which had been wrenched out of his head like sound teeth.

Will locked himself into the library and tried to collect his thoughts. In the course of an hour, the exultant expression had left his face: he began to look puzzled.

"Oh, bother this writing!" sighed he. "I can't piece the sentences together without making an ugly seam. If I could only get a start now! It's like a spool of thread; if you begin right, it will unwind ever so easy—but I can't get hold of the end!"

Two hours more. Will's speech, which he had intended should be an iron chain of argument, bedecked with flowers of rhetoric, where was it? Farther off than ever. His thoughts would not come at call; they believed in "State sovereignty," and paid no respect to the "Federal head."

"Look here, Rose," said Will, next morning, looking rather sheepish, "you girls have the knack of fixing things up. I've got ideas enough—fact is, I've got too many. All that plagues me, is what to do with 'em. Suppose I tell you what to write, and you write it? Now that's a good girl Rose. I'll do as much for you sometime."

Rose kindly refrained from saying, "Just as I expected," and only took the pencil and paper from her brother with a pleasant smile.

"Now," said Will, greatly relieved to find he was not being laughed at, "I want the speech to be real sound, you know, and sort of elegant, too. I must get in something about Demosthenes, or some of those fellows, and that golden-mouthed what's-his-name. Something about the settlement of America, and scaring the Quakers. Put in that Bible verse, 'Do n't spare the rod, or you'll spoil the child.' Say it's an awful thing to bring children up to expect presents instead of whippings—there's the point of the argument, you know,—and wind off with some poetry; it won't make much difference what."

Well, William Lawrence," said Rose, in despair, "I should think your brains had been churned! You've been chasing some great ideas about till you're dizzy, that's what it is. Now sit down, and let's talk about it awhile before we begin."

Will obeyed in a humble state of mind, very much ashamed of himself for appealing to Rose, who was only a girl and did not understand logic, yet very grateful to her, after all.

Fortunately, she seemed to understand his confused ideas far better than he did, and in due time they had together composed what Will regarded as a sensation speech, commencing with 'Mr. President,' and ending with a few deep lines from Milton.

"Now, Rose," said Will, "that's just about the thing! But I found the ideas, *did n't* I? I'll learn it by heart, and see if I do n't deliver it with a grand flourish! There's a great deal, you know, in the gestures. I's enough to make you ache to see how stiff some of the fellows stand when they speak! They get scared, I suppose."

But Will exulted too soon. People are very brave before they have ever had a tooth out, and boys are very brave before they have ever tried to speak in public.

Will thought he was not afraid of anything, but when called out to speak he felt as if the joints in his body had all turned to hard wood, and would n't bend. He supposed he was walking, but could not tell how he did it. He heard a suppressed titter from the little boys, and the eyes of the audience seemed to prick through his nerves like needles. Everybody took a savage pleasure in his misery, that was plain. Oh! to think he should ever have laughed at boys for being stiff, when they *could n't* bend!

He made his bow to the wrong side, and turned his back to the President.

"Mr. President," said he, in a whisper, wheeling right about face. "Mr. President—sir," repeated he, in a hoarse voice, that sounded to him as if it came from some other boy's throat.

"Mr. Lawrence," replied the President, smiling encouragingly. But if Will had been trying to get possession of a rainbow, or a flash of lightning, he could have caught either of them as soon as one word of his speech. Whither had it fled? Five minutes ago he had it by heart.

"Mr. President," he began again, in desperation. "I will ask to be excused," thought the poor boy, "and then rush out of the house and hide where nobody will ever set eyes on me again."

But Rose, meeting his glance, nodded with a smile that said, "Don't give up, Will." She did not seem to be ashamed of him. And Rose's friend, that wicked little Fanny Warner, was laughing and whispering to somebody, and Will was sure she was saying, "That's what I call a smart boy!" Cruel joke!

Will's pride was touched in a moment. The speech would not come back to him, to be sure; but he was determined to say something.

"The question is—ahem—Mr. President, 'Does the fear of reward have a greater effect on mankind, sir, than the hope of punishment?' I contend that it has. If I was in the army, Mr. President, I should want to be promoted, I hope, and that would help me some; but, I tell you, if I got into a fix, sir, as the men did at Pittsburgh, and wanted to back out, the *fear* of being a coward would make the fight come, and I would n't give in, no, not if I died for it! They should n't have it to say *I run!*"

"Now, Mr. President, I've forgotten my speech, and if it was n't for the fear of getting laughed at, I would n't have said a word. You might know I did n't speak for the hope of getting clapped! That's all I've got to say, sir."

But Will did get clapped most heartily. And next day, when he showed his teacher the elaborate speech which never was spoken, Mr. Garland declared that, in spite of the closing verse of Milton's, he liked the off-hand speech better, because it was a great deal more natural, and not at all far-fetched.—*Student and Schoolmate.*

EDUCATION.

Graduation in Teaching and Training.

(Continued from our last.)

§ 6. The Note of Exclamation (!).

The pauses after this note are also quite indefinite as to quantity of time. And as it is of much value in fixing or determining the meaning, as well as in marking out the emotional character of parts of composition, too much attention cannot be paid to the proper reading of those parts of composition *correctly marked* by it. In reading what is marked by this note, the four following things require to be practically studied:

1. The prolonged or hurried enunciation of words noted by it.
2. The emotional tone of voice which their reading requires, as high or low, loud or soft, sharp or mellow, &c.
3. That *impassioned character of voice* requisite for giving proper effect to the words to which it is annexed.
4. The varied length of its pauses.

Illustrative Examples.

1. O God, who is like unto Thee! O Thou Holy One of Israel! —(Enunciation prolonged,—tone solemn, indicative of reverence.) How precious also are Thy thoughts unto me, O God! how great is the sum of them! —(Enunciation slow and emphatic.)

My dear Edward, how happy I am to see you! —to see you well! —(Movement of the voice considerably quicker than in the preceding examples—tone expressive of a tender buoyant state of feeling, —pronunciation distinct—making a kind of semi-pause between each word.)

Why, here comes Charles! sprightly and gay! —(Movement of the voice quick—words *closely united* in reading them—tone lively.)

2. Awake! arise! or be forever fallen! —(Tone high, authoritative and commanding—expressive of courage—each word pronounced with distinctive force.)

Mark! James, listen! for I must not speak loud! stop softly! speak low! make no noise!—(Medium stress, low tone—expressive of earnestness.)

—Be it ours to mediate.

In these calm shades, Thy milder Majesty,
Thou God of earth and heaven! Father Eternal!—(Tone soft, approaching to monotone—utterance distinct and slow.)

3. O my son Absalom, my son, my son, Absalom! Would God I had died for thee, O Absalom, my son, my son!—(Tone loud—highly emotional—expressive of deep feeling—each word indicating bitter sorrow.)

—But *one, poor one, ONE POOR and LOVING CHILD!*

But *one* thing to rejoice and solace in,

And cruel death! hath snatched it from my sight!—(Utterance high, and slow—quality of the voice pure, expressive of great distress—pauses long.)

4. Hurry! Hurry! to the field.—(Pauses short.)

No. Lazy boy! Careless child! How foolish you have been! What a waste of time and talents you have made!—(Pauses more marked and longer.)

O Peace! how lovely art thou! how lovely are thy children! and how lovely are thy footsteps in the green and flowery vale!—(Pauses considerably prolonged.)

Ha! ha! let me see her: Out, alas! she is cold! Death's icy hand lies on her! Yes! O yes! till the resurrection morn!—(The divisions of this example require the longest exclamative pause—and the reading tone should show the highest emotional feeling.)

I should hope that these examples are sufficiently suggestive to the earnest and self-improving teacher, of the variety of tone and difference in length of pauses, which parts of composition marked by this note, to be properly and correctly read, must require.

§ 7. The Dash (—).

This mark has already been explained.

The pause of the Dash varies. Sometimes it requires to be very short, and often it should be longer than that of a period. It is now very often used instead of crotchets or brackets; and what is placed between two dashes, when thus used is parenthetical. It precedes something not expected, a happy turn of expression, throwing light on what preceded it, or rendering it more significant, directing special attention to it, or following up the same idea more expressively.

It is sometimes read as a period; often as a comma; sometimes as a note of interrogation, and also of exclamation. It is not unfrequently used after other stops to lengthen them.—The following examples will show a few of its various uses.

Examples.

1. If you give your attention, I will show you—but stop, I do not know that you wish to see.

Example of a sudden stop:

2. To-day is thine—improve to-day, not trust to-morrow's distant ray.

In this example, it directs special attention to what precedes it.

3. They hear not—see not—know not—for their eyes are covered with thick mists—they will not see.

Same idea expressively followed up.

4. Behold the master-piece of this part of creation—as the most perfect image of the Divinity here below.

Giving a high significance to what preceded it.

5. Our land—the first garden of liberty's tree—it has been, and shall yet be—the land of the free.

Comma pauses.

6. The exaltation of his soul left him—he sunk down—and his misery went over him like a flood.

Period pauses.

7. Was there ever a bolder captain of a more valiant band?—Was there ever—but I scorn to boast.

Used as a note of interrogation—to be read as a question.

8. The chain of being is complete in me; in me is matter's last gradation lost,—the next step is spirit—Deity! I can command the lightning—and am dust.

Used as a note of exclamation.

9. They say they have bought it.—Bought it!—Yes;—of whom?—of the poor trembling natives who had not power to retain it!

Added to other marks of pause, to lengthen them and give them more significance.

These examples are sufficient to show the various uses of the Dash. To be able to read with effect, and with proper tone—em-

phasis—emotion and inflexion of voice, parts of composition marked by the Dash, requires considerable study and much practice. Sometimes sentences or parts of sentences marked by it, require to be read with much emotion, solemnity of tone, and prolonged pauses. (See 8th and 9th preceding examples.) Sometimes the voice is suddenly suspended, and with a tone indicating that what follows is something very striking—full of meaning, and sometimes reaching the sublime. (See 4th and 8th examples.) Unless the properly dashed parts of sentences be so read as fully to bring out the writer's ideas, his object in so marking parts of his composition, is lost; and the educator is allowing excellent opportunities for toning and managing, and variously cultivating his pupil's voice and manner, to pass unprofitably,—nay worse, perhaps, allowing him to fall into a habit of reading every kind of sentence and composition alike.—Let teachers remember that those points or characters, are to be considered as more than marks of rests and pauses: they are significant hints, respecting the modification of the voice; brief rules for regulating its tone, accents and inflexions; so many way-marks to guide the reader on, and to enable him, as in succession he comes to each, to take advantage of their hints. But unless the teacher by his own repeated example,—by his own properly trained voice and effective manner—train his pupil till he comes up to his own style of reading,—which we suppose to be good—it is impossible that the pupil, by any verbal directions, and more repeated reading, can become an expressive intelligent reader, with a facile command of voice, able to give it that tone or character most suitable to whatever he reads.

§ 8. Crotchets (), Brackets [].

These are the only characters which, I believe, require farther illustration than is given in page 6th. What they enclose is called a *parenthesis*, or is *parenthetical*.

What is included within these should be generally read in rather a lower and different tone of voice—in most instances lower,) so as to distinguish it from what precedes and follows it.—Sometimes the enclosed clauses or sentences should be read quicker, sometimes slower than what comes before or follows them. The movement of the voice and character of its tone, depends altogether on the nature of the composition or the ideas it expresses.

Examples.

1. And the word was made flesh, and dwelt among us, (and we beheld his glory, the glory as of the only begotten of the Father,) full of grace and truth.

This parenthesis to be read in rather a lower tone, and the movement of the voice to be slow, solemn and emphatic; pauses greater than those of a comma.

2. Moses gave you circumcision; (not because it was of Moses, but of the fathers;) and ye on the sabbath day circumsise a man.

Tone rather lower and quicker, pauses before and after it rather long. To be read with emphasis.

3. Several quitted the other window (the only chance they had for life) to force their way to the water.

To be read quickly: pauses short.

4. While they wish to please, (and why should they not wish it?) they disdain the practice of dishonest means.

To be read in a tone rather higher and firmer than the rest of the sentence. Pause at its beginning short, at the end longer than a comma pause.

5. The most happy, (strange to say!) convince me most of human misery.

To be read in a lower and slower tone, with the first pause short and the next long.

6. I know the banker I deal with, or the physician I usually call in [There is no need, cried Dr. Slop (waking) to call in any physician in this case,] to be neither of them men of much religion.

What is within the brackets to be read in a loud sharp tone, and the word *waking* in a quick low tone—with momentary pauses.

More examples are, I think, unnecessary to show that parenthetical clauses, to read them with effect, and bring out their full meaning, in connection with what precedes or follows them, must have their particular tones, modulation of voice and pauses of different lengths.

§ 7 and 8. Emphases and Slides.

In the analysis of the voice emphases and slides are the next points which claim our attention.—As a preparatory exercise I would recommend that pupils be well exercised on force and quantity,—beginning with single words, showing them how, in

pronouncing these, every word, syllable, letter, or combination of letters, when correctly pronounced, has its own due and proper quantity of tone and force. I consider this an excellent way to make pupils understand the law of emphasis in its varied application. Every letter in a word, if at all pronounced, has its own legitimate quantity of tone and force; and it is so with every combination of letters, syllables and entire words, embodied in sentences; each, with reference to its place in composition and the amount of significance intended by the writer to be given it, has its relative total force and quantity of sound. And on these the *advanced scholars* at least, should be *well trained*. Succeed in making them clearly understand what is meant by tone, force and quantity as applied to letters and words, and they are at once put in possession of a key to these quantities of the voice. To enter upon an exposition of the phonic elements of the English language is not deemed necessary. It is understood that in teaching grammar the teacher makes this a special part of his duty; so that his pupils, by the time they have reached this stage of reading, are fully prepared for the exercise I am going to propose.

The first will be on separate monosyllables; and the next on words of two or more syllables; after, I give examples of words in composition.—To give the value or force of words, syllables, &c., I shall use our common musical character; and when any word has in composition an extra force the character above will be marked thus ' ; when the sound is prolonged, (—) will be annexed; and a dot (•) will precede the accented syllable.

Characters Used.

The crotchet, ; the quaver, ; the semiquaver, ; the demi-semiquaver, .

The crotchet marks the longest or more forcibly sounded letter or syllable; the quaver, the next in length or force; the semiquaver indicates a rapid pronunciation; and the demi-semiquaver, the least prolonged sound, or which has the least force.

1ST. EXERCISE.—Words of one syllable.

| | | | | | |
|--------|--------|---------|---------|---------|--------|
| No. 1. | No. 2. | No. 3. | No. 4. | No. 5. | No. 6. |
| | | | | | |
| Bit. | Brain. | Slur. | Thorn. | Where. | Maul. |
| Hit. | Choir. | Squirt. | Fought. | Phrase. | May. |
| Pit. | Theme. | Star. | Fire. | Freeze. | Prime. |

The sounds of the letters of the words of No. 1, are closely united in pronunciation. They are rapidly passed over; their index, therefore, is a semiquaver. The stress of the voice falls on the initial part of the words of No. 2; their endings, are slightly touched with the voice. The vowels *a*, *o*, and *e*, first, have their sounds prolonged. The end of the words of No. 3 have the accented stress; and the letters, *sl*, *squ*, and *st*, have a semiquaver value. *l*, in *star*, is prolonged. The first parts of the words of No. 4 have the *word-forming stress*. This is marked by a quaver. The semiquaver marks the force the letters at the end have. Vowel sounds are prolonged. The correct pronunciation of the words of No. 5 show at once which part of the words, *where*, *phrase*, and *freeze*, has the accented force, and the prolongation of the sounds of the vowels. *Wh*, *ph*, and *fr*, are quickly passed over; and, therefore, have the demi-semiquaver note. The words of No. 6 have their vowel sounds considerably lengthened in their pronunciation. A crotchet is used to indicate this. On this exercise pupils should be minutely questioned, and such exercises repeated till it becomes manifest that they have a correct idea of force and quantity, as applied to words in their pronunciation—can readily distinguish the least from the most forcible parts of words when uttered—how the voice slides rapidly over some letters, but dwells upon others—how the sound of *phr*, in *phrase*, is quickly passed over, while the rest of the word receives a considerable stress of voice, and the sound, (that of the *a* especially,) is much prolonged.

2ND. EXERCISE.—Words of two or more syllables.

| | | | |
|----------|---------|---------------|----------------|
| | | | |
| De-lay | Fa-vour | Dis-dain-ful | En-er-get-ic. |
| Pro-cure | Gra-ve | Dis-grace-ful | In-ex-ist-ent. |

First, explain the exercise; then question them, thus—which syllable in *delay* has the more prolonged sound and is more forcibly pronounced? Ans. *lay*. How do you know? Ans. From the pro-

nunciation. In the pronunciation I pass quickly over the first syllable *de*, and prolong the syllable *lay*, with an accented force. Would you know this from the characters placed over it? Ans. Yes: the semiquaver above the *de* indicates a quick pronunciation, and the crotchet above the *lay* is an index to its prolongation and force when pronounced. The dot shows it to be the *accented syllable*.

This question them on all the words of the exercise; and then on other words till you are satisfied that the object of the exercise is accomplished. For this purpose use often the blackboard.

They should now be prepared to be exercised in the same way on words embodied in composition, which should well prepare them for exercises on emphases, preparatory to an exposition of the inflexions of the voice in speaking and reading.

As it is with letters, combination of letters, and syllables, it is also with words in composition: they have their variety of force and prolongation of sound. I shall endeavour to explain this by farther exercises.

3RD EXERCISE.

I and my Fa-ther are one.

I—Father—one, have the greatest force; *my—ther*, in *Father—* and *are*, have less force, and, *and*, has the least force. *I*, and *a*, in *Father*, have the most prolongation of sound..

As long as I am in the world, I am the light of the world.

In this sentence *light* requires the most force; *long*, *I*, *am*, and *world*, come next, the second *I*, *am*, and *world*, require still less force; *as*, *as*, *in*, and *of*, require a rapid, yet distinct pronunciation; and the least force is given to the two articles, *the*.

It is the tone a-lone with suit-able force of voice that ex-press-es the in-ten-si-ty of our feel-ings.

N. B.—Let it be well understood by the pupil that force and quantity have their measure from the place of letters in words, and of words in sentences, and the significance there given them. —In giving these examples my aim is, to endeavour to unfold the variety of tone and force which accompanies every utterance of the voice in speaking and reading, and thus give correct ideas of what is meant by accentual relative forces, from the slightest touch of voice to the highest degree of force or emphatic utterance, and how *tone* is prolonged or shortened, and on what its prolongation depends.

Before passing to the exposition of the inflexions of the voice, I shall give one example more to show the different degrees of force which the words of one short sentence should have — if properly read.

"If Rome must fall that we are in-no-cent."

To read these few words with the spirit and energy they require, the voice to exhibit five different degrees of force, viz. :—

1. The semibreve, or strongest force of utterance;
2. The full emphatic force;
3. The distinctive emphases, or crotchet force;
4. The current reading, or quaver force;
5. The diminished semiquaver force.

Let us now proceed to unfold the upward and downward movements of the voice in reading, and when and by what these are regulated, and how they should be used. We have speaking sounds and musical sounds; we have sounds that have an upward, and sounds that have a downward tendency in pronouncing words, sentences and their different parts. Sometimes these can scarcely be distinguished from monotonous; at other times the difference from the pitch tone is striking—making an interval slide up or

down of a third, a fourth, a fifth, or even of an octave. In reading and speaking voice inflections are used less or more by every one. The duty of the teacher is properly to regular these: and the sooner he begins to do this the better for the scholar. The longer the training of the voice is neglected, the more will bad habits be confirmed, and the more difficult will it be to cure them.—But train it early to be pliant and tractile and the pupil will soon be able to give it any direction or expansion he pleases. A person whose voice lacks pliancy and expansibility can never give fluency and expression to his reading; nor can his reading be ever very effective. Fashioning and improving the organs of speech,—regulating the tones of the voice, and giving them a commanding character, is a most important part of a teacher's duty.

How do we pronounce words, especially long words? Is it not by a continued flow of connected impulses? And do we not pronounce trains of words with a similar impulsive connected flow of sounds? Now to give these as much variety, beauty, and effect as possible, the voice must have flexibility. Without this pliant command of voice, the reader or speaker cannot so clearly show whether the sense is continuous or complete; what the character of the idea is; whether it stands in contrast with another or that its significance requires it to be more distinctively marked. Nor can he give his utterance that life and pleasing variety which give it effect, or mark off the import of his pauses.—The fundamental pitch of the voice is the *axis* of the voice, around which it plays as the current of enunciation flows on—ascending or descending, less or more as the sense or character of what is read or spoken requires it.

Without flexional command of voice the precise degree of emphatic force can never be well brought out. It greatly helps enunciation, gives precision to affirmations, greater play to the lungs, and expansion to the chest, and enables the reader or speaker to avoid that monotonous tone so disagreeable to the ear and marred to effective reading.

For reference and aiding the memory, I give the following Table from Dr. Rush's celebrated work on the philosophy of the human voice. His work is one of the best I have seen upon the subject.

TABULAR VIEW OF VOICE EXPANSIONS.

| Condition or states of mind. | Vocal signs of those states. | Synonyms of old conventional terms. |
|---|---|--|
| Thoughtive or unexcited state. | The simple rise and fall, and shorter wave of the interval of the second; an unobtrusive quality; a moderate degree of force; and a short syllabic quantity. | Narrative simply declaratory or affirmative; descriptive, dispassionate; inexpressive; unimpassioned; emotionless, plain and almost an even tone of voice. |
| Inter-thoughtive or sentimentive and reverentive state. | The semitone, the second, occasionally the third and fifth with their waves; an extended time; a full or moderate but dignified force. | Sentimental; gravely pathetic; reverential; dignified, respectful; supplicative; penitential; and expressive of awe and admiration. |
| Passionate or excited state. | The semitone and wider rising and falling intervals with their waves; either short or extended time; a striking and varied quality; abruptness; with high degrees and expressive forms of force. To which may be added all the varied expansions of the voice ascending and descending. | Impassioned; expressive; earnest interrogative; declaratory; rhetorical; contemptuous; desisive and the conventional terms for every vehement passion. Under this division the widest ranges are included unof force. To which may be added even beyond the octave waves of voice. |

Continued remarks on voice expansion.

1. The continued flow of the voice in speech, has an onward and upward bent. With this inclination, one wave of tone succeeds another with concrete unity, till broken by a pause. And

by much the greater number of ascents exceeds not a semitone.—The downward semitone expansion is less frequent (1).

2. For the plain narrative of unexcited thought we employ the semitone or full tone melody, varied by the simple downward concretes of the same intervals, with properly applied emphasis, and suitable terminations and proper cadences. The movements of the voice generally are quick, and tones only occasionally prolonged.

3. When the composition has a serious character an increase in the accented syllables, together with a general slowness of utterance should be assumed,—the concrete still continuing in its simple rise or fall.

4. The extent of rising or falling intervals is in proportion to the energy of the mental state, character of the composition, &c.

JOHN BRUCE,
Inspector of Schools.

(To be continued.)

The Study of Nature.

ABSTRACT OF A LECTURE DELIVERED BY PROF. AGASSIZ, AT THE STATE HOUSE, ALBANY, N. Y.

Ladies and Gentlemen: I have been invited to address you this evening upon the subject of an Early Study of Nature as a means of developing the faculties of the young and of leading them to a knowledge of the Creator. I wish to awaken in you the conviction that the knowledge of nature in our days is the very foundation of the prosperity of states; that the study of the phenomena of nature is among the most potent means of developing the human faculties; and that on these accounts it is highly important that that branch of education should be introduced in our schools as soon as practicable. To satisfy you how important the study of nature is to the community at large, I need only allude to the manner in which, in modern times, man has learned to control the forces of nature, and to work up the materials which our earth produces. The evidence of the importance of that knowledge for the welfare of man is everywhere open before us; and that there is hardly any training better qualified to develop the highest faculties of man,—can I allude to a better evidence than to that venerable old man, Humboldt, who is the embodiment of the most extensive human knowledge in our days, and who has acquired that position, and who has become an object of reverence throughout the world, merely by his devotion to the study of nature? If that be true, then, that a knowledge of nature is so important for the welfare of states, and can train men to such a high position among men by the development of their best faculties, how desirable that such a study should form a part of all education. I believe that the introduction of the study of natural history as a branch of the most elementary education is what can be added to our already admirable system. The only difficulty is to find teachers equal to the task, and the task is no small one. For, in my estimation, the elementary instruction is the most difficult of all.

It is much easier to deliver a lecture to a class of advanced students than to take up the young and teach them the elements. And I believe it is still a mistaken view with many, that a teacher is always sufficiently prepared to impart the first elementary instruction to those entrusted to his care. I think nothing can be further from the truth, and that, in entrusting the instruction of the young in their first beginning to incapable teachers, we lose frequently the opportunity of unfolding the best minds to the highest capacities, by not attending at once to their wants. A teacher should always be far in advance of those he teaches, and there is nothing more painful than to be obliged to repress those embarrassing questions which the pupils may make, and which may be beyond our reach. The teacher who crams the day before that which he teaches the next day, is never up to his task. He must be capable of facing his class with a consciousness that he is fully competent to instruct in that which is the task of to-day, and to answer any question that may be asked about that which is before him. Not only that, but he should feel capable of fostering these questions, of suggesting them, of rendering his whole class so inquisitive, so desirous of being taught, that there should be no limit to the amount of necessary information which he can give, beside

(1) The semitone upward tendency of the voice here referred to may be readily distinguished, when the voice is suddenly or unexpectedly interrupted; or when an expression is suddenly broken off.—Ex.: "I would rather"—[speak out, Sir,]—"I would rather read than sing."

the repetition of the task assigned for to-day. And it is only the teacher who is far advanced beyond his class who can do that. He who is only equal to his task is not to be entrusted with such an important trust. He must be able to instruct so that the information which he gives at the time may become connected with that which the pupil is to learn afterward; and so I say that the teachers of the elementary school should be selected from among the ablest. They should be the best teachers. They should be capable of rendering the study attractive, interesting, and so pleasant, indeed, that the hour for the school should be the hour expected with anxiety by the scholar, instead of the hour dreaded as bringing something imposed by duty, and not desirable in itself.

This is particularly the case with reference to the study of natural history. The teacher who would undertake successfully to teach the elements of that science, must be so far advanced, that he knows how to select those topics which are particularly instructive, and best adapted to awaken the interest, to sustain it, and to lead it forward to the undertaking of more difficult questions. But it is not only in the study of natural history that it is desirable to have good teachers. I say that even to teach the A, B, C, or how to read and write, a teacher should know a great deal. And I can see that it requires that inexhaustible thirst for knowledge, which is imparted to human nature, to have children sustain their interests in study when the elements are imparted to them in the manner in which they are imparted. Can you conceive anything more dry and less attractive than the learning of the twenty-four signs which are called letters, and of combining them in syllables and then into words—and all in the most mechanical and humdrum way, as if there was no sense in it? Yet there is a deep sense in it, and there is in every series of letters, material for the most attractive and the most instructive information, if it was in the heads of the teachers. Let them show how men have learned to write their thoughts in words; how, after writing was invented, in what way it was used in the beginning, how it has been shortened into the abbreviations made use of to write words as they fall from the speaker's lips, and which are read with as great certainty as if the writer had them before him already written and had only to copy them; and then the children will be eager to learn them, and be ready to avail themselves of the advantages which they possess. But I say that in order to create that interest in them, they ought not merely to be taught mechanically that such a figure is A, and that another is B, and another is D, and so on, but they ought to be shown how men came to think of writing; they ought to be shown that writings, or the letters, are only symbols to express thoughts, and that the earliest and simplest ways of recording those thoughts, was to represent the object to the eye. Let a class of children be before their teacher, and let the teacher ask them how they would convey to others what they have in their minds. Let him ask how they would convey an idea of what they had seen during the day. They go along the street, they have seen houses and trees and waggons, men, women and children; and now let them, the very first day they go into school and sit on the benches, attempt to represent what they have seen. Let them all be called upon to make figures of what they have seen. They have seen trees, and let them represent a tree, and while they make that attempt, let the teacher tell them what different kinds of trees there are, and the difference which exists between trees; let him explain that there is a variety of trees, and let him represent the elm, for instance, or the pine, for the elm has a characteristic branch so peculiar that it can never be mistaken for a pine; and then again, the maple will be represented in a way entirely different from either the pine or the elm, arising from the very nature of the tree. On another day, let some implement of the household be brought forward and its parts analyzed and represented in the same manner, and when they have been drawn accurately and minutely, and copied on the slate, let them be represented, as it were, in short-hand, by a figure which will come in the simplest outline nearest the object it was meant to represent. And in course of time, the pupils will have collected thousands of different images representing things with which they have become acquainted, all of which will be familiar to them; and being called upon to represent one of those objects, they will readily make signs therefor; and, as they advance in that way, it will be found that these signs have become so numerous that it is trying to have so many things recorded; and then will be the time to show the children that this can be done in a more expeditious way—that we need not, in order to record all the things with which we are familiar, to have as many signs as there are different things; but that every thing has a name, and having received a name, instead of recording the thing itself, we may record the name.

¶ We may record the sound by which we express the thing, and to record the sound we may agree to let one of these signs which we use for elm represent a part of the sound of elm—the E; we may use one of the signs by which we represented the maple for a part of the sound of maple—the M; we may use one of the signs for representing the pine to signify a part of the sound of the word pine—the P; and then we can combine these signs so as to represent the sounds with which these objects are designated. That is the way in which the letters were invented. The letters we use now may be traced back to *hœronia*; they are in imitation of the hieroglyphics of Egypt, and if the teachers only knew them, they would know at once that these three letters which we read b-a-g, are only a representation of signs made in the manner in which these signs were made by the Phœnicians nearly thirty-five hundred years ago. They were borrowed by the Phœnician merchants from the Priests of Egypt, and then carried in their business transactions all over the eastern world, and came down, through the Greeks, in our alphabet. Would not these things interest a child? Would they not very soon learn their A, B, C, and while learning it, learn a great deal more which would be useful in their lives afterward? And what may be done for the A, B, C, ought to be done in every branch of study. It ought to be done in the study of astronomy, it ought to be done in the study of geography, it ought to be done in the study of natural history.

A mistake in our elementary education is that we teach everything in the same way. We resort to books, as if everything was to be learned from books, and from books alone. I will speak from personal experience. I have been a teacher since fifteen years of age, and am a teacher now and I hope I shall be all my life. I do love to teach, and there is nothing so pleasant as to be placed in a position to develop the faculties of my fellow-beings, who, in their early age, are entrusted to my care; and I am satisfied that there are branches of knowledge that are better taught without books than with books, and there are some cases where it is so obvious that I wonder why it is always to books that teachers resort when they would teach some new branch in their school. When we teach music we do not learn it by heart or commit it to memory, but we take an instrument and learn to play it. When we study natural history, instead of books, let us take specimens, stones, minerals and crystals. When we would study plants let us go to plants themselves, but not to books describing them. When we would study animals let us have animals before us, and not go to books in which they are described.

In geography let us not resort to books, but let us take a class and go out into the field, and point out the hills, valleys and rivers, and show them what are accumulations of water and expanses of land; and then, having shown them that, let us bring representations of what they are to learn, that they may compare them with what they know, and the maps will have a meaning to them. Then you can go on with the books, and they will understand what these things mean, and will know what is north and east and south, and will not merely read the letters N. E. S. W. on a square piece of paper, thinking that England and the United States are about as large as the paper they learn from. When I was in the College of Neufchatel, I desired to introduce such a method of teaching geography, I was told it could not be done, and my request to be allowed to instruct the youngest children in the institution was refused. I resorted to another means, and took my own children—my oldest, a boy of six years, and my girls, four and one-half and two and one-half years old, and invited the children of my neighbors. Some came upon the arms of their mothers; others could already walk without assistance. These children, the oldest only six years old, I took upon a hill above the city of Neufchatel, and there showed them the magnificent peaks of the Alps, and told them the names of those mountains, and of the beautiful lakes opposite. I then showed them the same things on a raised map, and they immediately recognised the localities, and were soon able to do it on an ordinary map. From that day geography was no longer a dry study, but a desirable part of their education.

You may do the same in astronomy. You may use the lamp in the room to show them how a body illuminated may cast its light on others, and how the side opposite is in darkness. Let the teacher turn about in front of the light, and he will show that light is shed on any part of his body as he presents it, and in that way he can teach a child of four years the relative position of the earth and sun. You can go further, and show the complicated motion of the moon, simply by showing them that while you turn around yourself, a piece of paper which you hold may also turn around you, while you radiate about the central light which represents the sun: and in that way the whole movement of the solar

system may be explained in a manner pleasant to the youngest child.

But I have undertaken to address you upon the desirableness of introducing the study of natural history in our schools, and of establishing that instruction as a means of developing the faculties and as a means of leading the child to the knowledge of the Creator, and I will now turn to the point of my address.

Natural history, I have already said, should be taught from objects and not from books, and you see at once that this requires teachers who know these objects, and not merely teachers who can read and see whether the lesson set has been committed faithfully to memory. The teacher must know these objects before he can teach them. And he ought to bring them into the school, and to exhibit them to the scholars, and not only that, but to place them in the hands of each scholar.

Some years ago I was requested by the Secretary of the Board of Education, to give some lectures on natural history to the teachers assembled in different parts of the State, in those interesting meetings known as teachers' institutes; and I had been asked to give some instruction on insects, that the teachers might be prepared to show what insects were injurious to vegetation and what are not, and that they might impart the information to all. I thought the best way to proceed would be to place the objects in their own hands, for I knew that mere verbal instruction would not be transformed into actual knowledge, that my words would be carried away as such, and that what was needed was the impression of objects. I therefore went out and collected several hundred grasshoppers, brought them in, and gave one into the hand of every one present. It created universal laughter; yet the examination of these objects had not been carried on long, before every one was interested, and instead of looking at me, looked at the thing. And they began to examine and to appreciate what it was to see, and see carefully. At first I pointed out the things which no one could see. "We can't see them," they said. "But look again," said I. "for I can see things ten times smaller than these;" and they finally discerned them. It is only the want of patience in the difficult art of seeing, that makes it so much more difficult.

The power of the human eye is very great, and it is the want of training which sets so narrow limits to its boundaries. After having examined one object minutely—one of those objects which can be seen everywhere—take another, one which has some similitude to it. Analyze its parts, one after the other. Point out the difference which exists between this and that examined before, and you are at once on the track so important in all education, which exists in comparisons. It is by comparisons that we ascertain the difference which exists between things, and it is by comparisons, also, that we ascertain the general features of things, and it is by comparisons that we reach general propositions. In fact, comparisons are at the bottom of all philosophy. Without comparisons we never could go beyond the knowledge of isolated, disconnected facts. Now, do you not see what importance there must be in such training; how it will awaken the faculties, how it will develop them, how it will be suggestive of further inquiries and further comparisons, and as soon as one has begun that sort of study, there is no longer any dullness in it. Once imbued with the delight of studying the objects of nature, the student only feels that his time is too limited in proportion to his desire for more knowledge. And I say that we can in this way become better acquainted with ourselves.

We can understand our own nature, our relations to the world at large in a better manner. We can know how we are related to the whole animal kingdom, if we once begin that kind of comparison. At first, it may seem difficult to find any resemblance between man and quadrupeds, between quadrupeds and birds, between birds and reptiles, between reptiles and fishes; and if we were to attempt to compare a fish to a man, it would seem preposterous. And yet the two are constructed on the same plan. The same elements of structure which we may see in the fish are, only in a more lofty combination, presented again in the man; and it may be shown in the simplest manner that there is one single gradation leading up from the fish to the noble stature of man. And these comparisons are the best means of developing all our faculties, because they call out not only the powers of observation, but the ability of man to generalize, and at the same time to discriminate. They call into effect all those abilities which distinguish men from men, which give men power over other men, and give men the power of discriminating judiciously, and of combining properly all the ability of discerning differences, as well as resemblances; one constitutes the art of observing, while the other constitutes the art of the philosopher.

The difficult art of thinking can be acquired by this method in a more rapid way than any other. When we study logic or mental philosophy in text-books, which we commit to memory, it is not the mind which we cultivate—it is the memory alone. The mind may come in, but if it does in that method, it is only in an accessory way. But if we learn to think, by unfolding thoughts ourselves from the examination of objects brought before us, then we acquire them for ourselves, and we acquire the ability of applying our thoughts in life. It is only by the ability of observing for ourselves, that we can free ourselves from the burden of authority. As long as we have not learned how to settle a question for ourselves, we go for authority, or we take the opinion of our neighbor; that is, we remain tools in his hands, if he chooses to use us in that way, or we declare our inability of having an opinion of our own. How shall we form opinions of our own otherwise than by examining the facts in the case; and how can we learn these facts, which are unchangeable, those facts over which man, with all his pride, can have no control?

Man cannot make the sun to start off and move in space; man cannot change the principles of the solar system; he cannot make plants sprout out of their season; he must take the phenomena of nature as they are. They should teach him humility and truth. He should learn that what exists in nature is true, and that to learn to follow truth he must bow to what is; he must bow to what he cannot change from the nature of things; but at the same time, he learns how to ascertain what is, and how things are; and while he learns that, he acquires a power which afterwards can neither be checked nor lessened, and which is ever improving, in proportion as opportunity for further observation is increasing. I will select a very trivial case to show you in what way we may reach a question from the observation of special facts. Let us take an earthworm. [Prof. A. here drew on the blackboard representations of the things described.] It is a cylindrical elongated animal, with transverse rings all along. Upon each of these rings are stiff bristles, standing out in opposite directions, by the motion of which the animal moves along.

Let us examine the lobster. Here we have another animal, with a body, tail, legs, and a variety of appendages in the shape of claws and legs. It has no resemblance to the earthworm. Let us examine the wasp or bee. Here we have an animal still different. It has wings, and it presents three different regions of the body, and yet it is constructed on the same plan as the others. Let us see what they have in common. There are a succession of rings, one upon the other. If we examine the maggot, from which the wasp is hatched, we shall find that it much resembles the earthworm, but as it grows, there are fewer rings round the body. [The similarities and differences of the three animals were described at length.] They have, at the commencement, these things in common—a cylindrical body, divided into a number of joints, which are moveable one upon the other. We have, therefore, reached the general proposition, that all these animals have a common structure; that they are all built upon a common plan, and that the elements of the structure, the architecture of it, consist merely in the combination of rings. The difference arises only in the progress of growth, and they increase in every region until we have as complicated an animal, superior to the worm, as the lobster is superior to the bee or wasp.

How was the discovery of these facts accomplished? First, by an observation singly of these things, one independently of the other; then by a comparison of all the successive stages of growth of one with the successive stages of growth of the other; then by comparison of all the features with one another; and then we reached the general conclusion, that there was but one plan of structure of the whole; but as soon as we have reached this generalization, we have at once also come to the conviction, that between animals organized on this plan there can be no similarity to the animals organized on any other plan. We find that our frame is built in a very different way. If we begin to analyze the difference, then we see that what distinguishes man is his head and brain, his middle body and limbs. It would not be a difficult thing to show, that the same bones are found in quadrupeds as in man; and that their limbs and organization correspond. It only shows that the Great Architect knew how to apply the same means to purposes as different as walking and flying. Even in fish, the fins are only modified arms and legs, and are constructed on the same plan of arrangement, as may be distinctly traced by any person who would for a moment establish a comparison for himself, not merely by speaking these things, telling them in a school-room—but only where the bodies of the animals are at hand to show them. If you use a specimen in place of a text-book, you will exhibit the similarity which exists between animals constructed on this plan,

and you will introduce the most secure foundation for generalization which you can secure. You will have shown that the backbone of the fish is the same as that which supports our frame: that the bones which form the ill-shaped and elongated head are the same which form our skull and brain, and that the fin which is attached is only an elongated arm. It is only in reference to special adaptation that the differences are introduced. I have entered into details, to show you that such objects exhibited and compared, will suggest ideas, and will lead to the training of the mind in a much more effective manner than by any study of mere text-books of general propositions and sentences. And yet I consider that of the utmost importance.

Let me not be understood, as if I thought that the study of writers was not of importance. It is only in developing all our faculties for making man what he may be, it is only in giving to his mind that noble development of his faculties, that we urge this subject. If we cultivate the imagination and the memory, — and thus cultivation of the senses is neglected, — the ability of observing is neglected, and all those abilities which man may acquire by the culture of his senses, by the art of observing, are left untrained. The great element of education is left out of our system — that which appeals to the senses; that which appeals to the power of observing; that which requires activity of manipulation; and while only the imaginative faculties and the memories are cultivated, the other faculties are left starving. In our age, while the study of natural history is so manifestly necessary to the work of men, add that means to the culture of our schools; and to do it as soon as possible, educate the teachers who will be capable of imparting information; and that can be done easily by following the wise method which has been adopted in every branch.

When physical geography was introduced into our schools, how was it done? One man went about from school to school, and gave instruction in that one branch, and his pupils are now teachers. Send us a few scholars who have aptitude for that study, in our principal schools in which we teach natural history; and in the teachers' institutes, and in the schools themselves, let them show what can be taught, and very soon the spirit will be caught and will spread; and in a few years we may have our system of education embodying that important branch of study, and I verily believe it to be one of the most important additions which can be made to our system of education.

Accuracy in Teaching.

The child regards things as the same which appear so to his eye. He calls arsenic flour, because it looks like flour — it is white. The oak and the maple, are to him both trees, and for aught he perceives, trees of the same kind.

It is no small part of education to discriminate between objects which resemble each other. The child, as he roams the field, is to be early taught the precise difference between the rose and the lily, the pear and the peach, the robin and the bluebird. It is not enough for one to know, that the rose and the lily are flowers: — he must also know what kind of a flower is each.

It is often much more important to perceive the differences than the resemblances of objects. Arsenic looks like flour; but how different their properties! This habit, early formed in the child, of carefully noting the differences between things resembling each other, should find full exercise in the schoolroom. The exact difference between the figure and the 0, should be shown, before the pupil has advanced beyond the "Rule of Three." The difference between the multiplier and the multiplicand, should be so explained that the pupil can not, without gross carelessness, commit the blunder of multiplying books by cents and horses by dollars.

In division, the difference between finding how many times two books can be counted from eight books, and taking one half of eight books, should be made as clear as sunlight to the pupil. The precise difference between a common and a decimal fraction, should not fail to be noted — the former being the genus, and the latter the species. And what a bewildering maze is the subject of fractions, if presented in a mass, and not drawn out in a simple order, and the exact difference between multiplying, dividing, etc., clearly explained.

But we have the most painful reminiscences of Grammar. How long did our teachers try to beat into our brain, that "hat" is a "noun, because it is a name;" and "to be" a verb, because it implies "action, state, or being." We knew we lived in Massachusetts, and that several other States belonged to the Union; but that

"to be," or any other verb, had anything to do with them, we did not and could not see, and doubtless were accounted dull. Now we apprehend the difficulty was, that the exact difference between the noun and the pronoun, the verb and the adverb, was not clearly pointed out and dwelt upon, until we perceived their differences and their resemblances.

Children study geography for years without knowing that the length of a degree of longitude at latitude 60°, is half that at the equator, — if indeed they learn there is any difference between the length of a degree at the equator and at the poles. And how many pupils know whether the Blue Ridge is east or west of the Alleghanies, or whether the Alleghanies are older or younger than the Rocky Mountains?

If, in writing, we had been taught the precise difference between the forms of the letters *a* and *d*, *l* and *y*, we think our chirography would now be, if not more elegant, at least more regular and readable.

In the higher mathematics, algebra, geometry, trigonometry, and conic sections, there is the same need of accurate discrimination. The confusion of the student in radical quantities, arises mainly from not carefully noting the differences between similar terms. How simple and beautiful becomes the ascending scale of propositions in Euclid, if each is mastered by itself, and its affiliated relations to others clearly seen. But how often have we seen the proof of the whole proposition utterly vitiated by leaving out one link of the chain of argument, or by failing to see the precise difference between the proposition in hand and that upon which it depends. Every link must be supplied, or the chain is but a rope of sand. How soon sines and cosines, tangents and cotangents become familiar terms to the student who strives to perceive clearly their exact significance and their various relations!

By the same simple forms he measures the distance across the neighboring lake, calculates the height of the mountains in the moon, the diameter of Jupiter, and the distance from the earth of stars in Orion's belt. The circle and the ellipse, the parabola and the hyperbola, the ordinate and the abscissa, come to be terms as clearly defined, to the student of close discrimination and exact thought, as the letters of the alphabet.

Comparison and precision are equally needed in the study of Latin and Greek. The careless student perceives no difference between *vir* and *homo*, *mens* and *animus*, *amo* and *diligio*; but the accurate scholar has a distinct and sharply defined notion of each, and hence of their precise difference. How upon the dry bones of a dead language comes the flesh, vital in every part, when the histories of words are traced from their roots, their various expansions, contractions, and changes of meaning noted, their relations to other words ascertained, and their equivalents in another language found.

Studying a dead language thus, it becomes alive with interest, and greater precision of thought and accuracy of speech are daily gained.

Teachers cannot insist too much upon definite thought, upon precise knowledge. The pupil must be required to repeat, must be drilled, until it is certain that he has the exact thought — and the only sure evidence to the teacher that he has this thought, is the precise utterance of it by the pupil.

This is the drill, the mental gymnastics, which is to give precision and power of thought. As the thousand trained soldiers will put the untrained ten thousand to flight; so the mind trained by this exact discipline, even if its native strength is not greatly increased, can wield its resources with a tenfold power. The rough ore of the mind becomes the polished steel of the Damascus blade, with ready temper and keen edge.

We fear there is still a lack of accurate teaching in our schools. The tendency and the temptation are very strong to let an answer or a statement pass uncorrected, if it is nearly correct. It is trying in the extreme for a teacher to demand of a pupil the statement of a principle for the tenth time, if accuracy is not before attained. But it must be done. It is not the office of the teacher to impart or to seek to develop uncertain thought, — enough vague ideas are gathered from the various walks of life, — but it is his duty to train the pupil to habits of exact thinking and accurate speaking.

But as there are exceptions to nearly all rules, the practical teacher will make some exceptions to his demand for perfect accuracy. There are a few pupils who, partly, perhaps, from constitutional inaptitude, and partly from defective early training, can be but comparatively accurate. Even if set forms are driven into their minds for the tenth time, it is more than probable that they will utterly break down at the eleventh trial. Few ideas in their minds are even so clearly defined as to admit of definite expression. They belong to the class who "know, but cannot tell." Such pupils

need the charity that "suffereth long, and is kind." A comparative degree of accuracy is all that can be secured in their case, without trenching upon the rightful demands of the great majority of the school. Providence evidently did not design this class to be *scholars*; but they will fill some gap in society, and may be useful to the world in some honorable calling.

No true discipline can be secured without the accuracy to which we have above referred. Accurate teaching presupposes, of course, a disciplined teacher,—a teacher whose mental processes are active, clear, and logical. The definitions given in text-books must not be accepted by the teacher as correct, without the most thorough tests. The order of thought will rarely be the same as that which the disciplined teacher will present. And even should the order in the text-book chance to be the same, the teacher will remould and reissue the subjects, bearing the stamp of his own mint—yea, his own "image and superscription."

Under careless teaching pupils are listless, without interest and without fixed thought; while accurate teaching secures attention, awakens thought and arouses enthusiasm in all but the dullest. But to teach accurately, requires constant study. Without this study every teacher is virtually retrograding. There must be a constant reaching out after new knowledge, a perceiving of new relations, and a remarrying of the whole gained for efficient use. The battle with ignorance, though bloodless, is long and severe; and the weapons of the faithful teacher's warfare must be kept burnished and ready for constant service.

The teacher's work is arduous; but the end to be secured for his pupils, a disciplined and heavenly mind, is glorious, and his own reward is sure.—*Mass. Teacher.*

Pleasant Echoes.

Personal gossip may not be particularly interesting; still we are tempted to trust a little note of what has interested us—pedagogically.

The day previous to the closing of our school term, and without intimating the object, we dropped a little *spirit* thermometer into the school-room, as an experiment, by writing the following on the blackboard: "Will each of the senior pupils, to-morrow morning, recite that verse in Longfellow's 'Psalm of Life,' which he likes best."

The morning came; and the recitation hour brought a very pleasant response from the young spirits around us—each heart-throb so innocently developed in those unconscious utterances.

"Their lesson was the Psalm of Life,
Our lesson was in *them*."

The school-room hushed, we watched with no little pleasure the "cropping out" of the various feelings and impulses, in the different localities, as manifested in the selection, by each, of his favorite stanza. A young man, determined to show his "go-ahead" pluck, broke the silence and dashed off with his opening peal—

"In the world's broad field of battle,
In the bivouac of life,
Be not like dumb, driven cattle!
Be a *hero* in the strife!"

Then away in yonder corner, instantly rang the clear, glad voice of a young lady who takes the world joyously—

"Tell me not, in *mournful* numbers,
Life is but an empty dream!
For the soul is dead that slumbers,
And things are not what they seem."

Eyes begin to brighten into the spirit of the scene; when a sadder and calmer nature, shading it with her thoughtful mood, continued—

"Art is long and Time is fleeting,
And our hearts, though stout and brave,
Still, like muffled drums, are beating
Funeral marches to the grave."

And the hush deepened as her plaintive tones breathed over the buoyancy of the gladder-hearted. A young man, more philosophical than sentimental, who would measure life by something *done*, thus responded to the sisters—

"Not enjoyment, and not sorrow,
Is our destined end or way;
But to *act*, that each to-morrow
Finds us farther than to-day."

And then from the other side of the house, came the quick tones of a young girl, a little given to "hero worship," who would inspire others with an upward ambition like her own—

"Lives of *great men* all remind us
We can make our lives sublime,
And departing, leave behind us
Footprints on the sands of time."

And so on with other stanzas, till a stout-hearted young man swept the whole feeling of the school into his stirring chorus—

"Let us then, *be up* and doing,
With a heart for any fate;
Still achieving, still pursuing,
Learn to *lab* and to wait."

And in the hush which followed, we could almost hear the "amens" that seemed to run like an electric current, from heart to heart. And how distinctly we had caught the pulse of each! "Like to like," thought we; and how the poet sings his song anew in these young voices, echoing his words like so many varied harp-strings trembling to his wizard touch.

Now this "exercise" may have been useful as well as pleasant, though not particularly "writ down" in any cold, school *programme*. Even upon the rougher and ruder natures some sunbeam may have fallen—some flower dropped at their feet—some impulse awakened, while each voice, in turn, indicated the various individualities of those participating in the exercise. Hence, a pleasant study to the looker-on, as we were.

And so, amid these morning echoes of the sweet "Psalm of Life," we plodded on through the sterner toils of the school day. And the recitation of the holier benediction of the old Hebrew upon the "tribe of Joseph," closed that day and the school term; and in a few moments the twilight curtained the silent halls of "Walnut Grove." But those remembered tones are lingering in a living freshness that makes that silence less oppressive. And this all is nothing but "poetry"—and very poor poetry in his sight,

"Who loves no music but the dollar's chink."

M. A. C.

New Hampshire Journal of Education.

OFFICIAL NOTICES.

ERECTION AND DIVISION OF SCHOOL MUNICIPALITIES.

His Excellency the Governor General in Council, on the 17th July, was pleased,

1. To erect the new Parish of St. Placide, County of Charlevoix, into a school municipality, including the Concessions of St. Joseph, St. Flavien, St. Narcisse, St. Félix and St. Benjamin; bounded on the north by lands not conceded, on the south partly by Côte St. Charles and St. Jean, and partly by the Concessions of St. Antoine and St. Gabriel; on the north-east partly by the land of Abraham Bouchard, and partly by that of Bernabé Boivin, and on the south-west by lands not conceded.

2. To divide the School Municipality of Percé, County of Gaspé, into two parts, and erect one of these as the *School Municipality of Percé*, and the other as the *School Municipality of Cape Despair*, the first including all that tract comprised between the Township of Malbaie on the north-west, and the line dividing the Parish of St. Michel de Percé from that of St. Joseph of Cape Despair on the south-west; said tract having a frontage of about three leagues and a-half on the Gulf of St. Lawrence, by about two leagues in depth, without including the Island of Bonaventure, which shall continue to form a separate school municipality.

The following limits have been assigned to the Municipality of Cape Despair: From the line dividing the Parish of St. Michel de Percé above mentioned from the said Parish of St. Joseph of Cape Despair, on the north-east, to the stream known as *Ruisseau Lapierre*, towards the south-west, forming a tract of about two and a-half leagues frontage on the Gulf of St. Lawrence, with a depth of about two leagues and two thirds.

His Excellency the Governor General in Council, on the 24th July, was pleased

To divide the School Municipality of Mansfield and Waltham, County of Pontiac, into two parts and erect one part into the School Municipality of Mansfield, with the same limits as the Township of this name; and the other part into the School Municipality of Waltham, with the same limits as the Township of Waltham.

DONATIONS TO THE LIBRARY OF THE EDUCATIONAL DEPARTMENT.

The Superintendent of Education acknowledges with thanks the following donations:

From C. S. Cherrier, Esq., Q. C.—*Trésors de l'Éloquence*, 2 vols.
From Messrs. Brousseau, Frères, Québec.—*Les Soirées Canadiennes*, 5 copies.

From M. Alphonse Leroy, Professor in the University of Liege, Belgium.—*Fables et Apologues*, by R. Maréchal, 1 vol. *La Veille du Déluge, ou une intrigue de cour sous Louis XV.*, by E. Delumone, 1 vol.

SITUATIONS WANTED.

A first class teacher, with many years of practice, is desirous of obtaining a situation in a country place. He is a married man and would accept any salary above £80. Address Rev. J. Langevin, Principal of Laval Normal School, Quebec.

Miss M J Freel, who is in possession of the Elementary diploma of the McGill Normal School, would accept a situation in a school under Commissioners or Dissident Trustees. Address Corner of Craig and St. Ignace Streets, Montreal.

Mr. J. B. Blanquet is prepared to teach French, English, German Latin, Greek, etc. in a private family, and will furnish good testimonials. Address No. 4 Dorchester St., Montreal.

JOURNAL OF EDUCATION

MONTREAL (LOWER CANADA) AUGUST, 1862.

Examinations and Distributions of Prizes.

Much space was taken up in our last with reports of the examinations held in several educational institutions; we shall now lay before the readers of the *Journal* a short account of what has taken place since, regretting that we are obliged to omit many interesting particulars for want of room.

At the Laval University, and at many other institutions including the Seminaries of Montreal and Quebec and the St. Mary's College of Montreal, the proceedings occupied but one sitting, and were almost restricted to a public distribution of prizes. A few days before the distribution, the students of the Seminary of Quebec, who had been undergoing a course of military training, were reviewed in the college yard by His Excellency the Governor General, and the precision with which they skirmished, charged with the bayonet and performed other difficult evolutions elicited from Lord Monck and the military gentlemen present, words of high commendation.

The examination of the students of the Montreal College took place in the spacious edifice situated near the mountain and occupied since the old building in Griffintown was leased for the accommodation of the troops. The new college is built on the site of the old manor-house, formerly known as the *Fort des Messieurs*, of which only two small towers on the wayside remain. One of these contains the remains of several neophytes, conquests made by the missionaries in the early days of the colony; and the visitor is still shown curious epitaphs commemorative of the virtues of those interred there. In consequence of some temporary arrangements, the Examination took place in the large dormitory, above the chapel. The exercises were enlivened by vocal and instrumental music, and included a dissertation in which several speakers took part, and three interesting lectures with illustrative experiments in natural history and chemistry as applied to the arts.—The distribution of prizes at the St. Mary's College drew together a numerous auditory, among whom were judges, examiners, the Hon. the Superintendent of Public Instruction, distinguished educators and many others who had attended the examination previously noticed. The Band of the 16th Regiment, under the direction of Sgr. de Angelis, performed several choice selections and Canadian

melodies to the evident delight of all present. Among those who evinced great proficiency and talent, Messrs. Falardeau, Legendre and Dubreuil are, we think, especially worthy of mention.

The examination at the St. Francis College, Eastern Townships, was well attended and every thing went off very successfully. The languages, mathematics, book-keeping, drawing and the English branches had been taught with brilliant results; and in declaiming, the skill evinced by many students gave unmistakable proofs of close application. The number of students had greatly increased and stood at 117 for the whole year, while the boarding establishment in connection with the college was carefully managed.

At St. Hyacinthe the examination at the College was conducted under the auspices of the Hon. Mr. Sicotte, who, towards the conclusion of the exercises, delivered an address in which he insisted on the importance of classical education, and the advantage to the country of extending its benefits to as many as possible. He was followed by C. S. Cherrier, Esq., member of the Council of Public Instruction, who spoke with his accustomed facility and eloquence. The awarding of the prizes was preceded by a dialogue entitled *Naples et l'Italie*, in which the Rev. Mr. Raymond gave through the agency of some of the pupils an interesting account of his travels through the beautiful country which formed the subject of this exercise. The College of Nicolet opened its examination with a spirited competition for the prizes that were to be awarded to eloquence. The most distinguished persons among the auditory having been appointed to judge of the respective merits of the candidates, Mr. L. Blondin was declared winner of the first prize and Mr. E. Gerin-Lajoie of the second. At the College of Ste. Therese de Blainville the distribution of the prizes was preceded by very well conducted musical exercises in which forty or fifty voices took part. Mr. Chatillon had charge of this class. No public examination took place at the College of St. Ann in consequence of the death of the Very Rev. Mr. Gauvreau, Grand Vicar. The examination at the College of L'Assomption was conducted according to the system which has been long established, but is now falling into disuse: visitors questioned the pupils, and theses and recitations were listened to. The performances of Messrs. Z. Mayrand and D. Jobin are highly spoken of by a correspondent who was present. Acting upon a happy idea, the professors have made the history of the college itself a subject of study; and we believe the principle might be advantageously extended to all institutions devoted to learning, in each of which a record should be kept and the scholars made familiar with its contents. An essay, by Mr. Dausereau, was circulated among the gentlemen present and, we are assured, pronounced an excellent sketch of the history of the College of L'Assomption.

The College of Three Rivers, recently visited by His Excellency the Governor General, has been only three years in existence, yet it is attended by 110 students, who form six classes. The progress was most satisfactory. The industrial Colleges of Terrebonne, Sherbrooke and St. Michel de Bellechasse dismissed their pupils for the summer vacation as usual. At the College of Rigaud two days were spent in the examination, and many persons attended to witness the proceedings. Rev. Mr. Fabre delivered the farewell address. The industrial and agricultural College of Rimonski, which for several years past had been in a very embarrassed and unpromising position, seems to have acquired renewed vigor under the able management of the Rev. Mr. Potvin, the Principal, and we learn with pleasure that it is intended to annex a model-farm to the school. The examination was well attended and its results

encouraging. M. Smith, the author of several writings on agriculture, gave during the year a course of lecture on that important branch of study.

The examinations at the Ursuline Convents of Quebec and Three Rivers were attended, as usual, with great success; and the works of art executed by the pupils attracted much attention. The following are the names of the young ladies who appear to have carried off the palm at Quebec: Misses Jennings, Th  berge, Faucher, De Blois, Renaud, McDonald, Clancy, and Carrier who pronounced the valedictory address. The Ladies of the Congregation have established two new academies in Montreal—one in the building occupied until recently as the St. Patrick's Hospital, the other in a house on St. Denis street. At a distribution of prizes that took place at the school last designated, the Provincial Secretary, Hon. Mr. Dorion, Mr. Justice Mondelet, the Superintendent of Education and many other persons were present, the exercises comprising besides musical performances, a dialogue upon the history of Canada, a little English drama in which Miss Power admirably sustained a leading character, a petit comedy in French that afforded Miss Saint Louis an excellent opportunity of displaying her talent and tact, and a valedictory address pronounced by Miss Elisa Chauveau. At the academy of Mont Ste. Marie a valedictory was spoken by Miss Cot  , and the examination was very satisfactory. This institution is under the direction of the Ladies of the Congregation, who have 36 missions in Lower Canada, affording instruction to thousands of children,—their elementary schools in Montreal alone being frequented by 3000 scholars, who are taught gratuitously. The Convent of the *Sacri-Coeur*, situated at a distance of a few miles from the city, also distributed prizes; on which occasion a dissertation on the history of the church and several recitations were listened to with interest, as also a musical composition by one of the pupils, Miss Lajeunesse, who, it is rumored, will go to Paris to complete her studies at the *Conservatoire*. At the recently established Convent in the village of Lachue, the examination was numerously attended by Montrealers and residents of the locality, without distinction of religious faith, and the ceremony pronounced decidedly a success, while the results obtained at the new Convent of Hoche-laga were no less satisfactory. At the latter institution the Hon. the Superintendent of Public Instruction delivered an address in which he congratulated the Ladies of the convent on their mode of teaching, and paid a high compliment to the generosity of Mr. Valois, to whom they were indebted for the institution; and the visitors were afterwards conducted through the chapel, halls and class-rooms, which are very conveniently laid out, and well adapted to the purposes for which they were intended. Very satisfactory examinations also took place at the Convents of Point Levis, Sherbrooke, Sommerset, and St. Hyacinthe. Hon. Mr. Scotte presided at the last mentioned place, and delivered an address, as did also the Revd. Mr. Desaulniers.

Our readers will have seen in the newspapers, numberless reports of examinations held at the academies and model-schools throughout this section of the Province; and, no doubt, the very satisfactory improvement that has taken place has not escaped their notice. Under these circumstances we shall not attempt to give a recapitulation of these proceedings but confine our remarks to a very few institutions, taking occasion to observe that many among the teachers of these schools have pursued their studies in the Normal schools. The Superintendent of Education attended the examinations at the Model-schools of Ste. Claire, County of Dorchester, and of St. Henri, County of L  vis, which have been established through great exertions on the part of the commissioners and rate-payers. The first is conducted by Mr. E. Roy, pupil of the Jacques-Cartier

Normal School, and the second by Mr. Louis Roy, of the Laval Normal School. The pupils of both these schools replied to the questions with remarkable ease and accuracy. Very encouraging reports have reached us of the prosperous condition and success of the academy at St. C  saire and the Model-schools at St. Henri de Mascouche and St. Denis; while the numerous institutions under the direction of the *Brothers of the Christian Schools*, which are to be met with in all the cities and small towns, continue to afford instruction to a vast number of children.

From the above it will be seen that the interest with which the public have long watched the progress of education in Canada not only continues unabated but is each year increasing. All parts of the country vie with each other in their endeavor to promote the good cause; and, stimulated by the examples of the representative of Our Gracious Sovereign and that of the ministers of religion, our statesmen and leading citizens have bestowed fresh marks of attention and favor upon our schools. May their importance never be undervalued!

McGill University.

The Session of the McGill Normal School and of the High School Department will commence on September 1st. That of the Faculty of Arts on September 6th. Intending students and pupils should present themselves on these dates, or as soon thereafter as practicable.

Extracts from the Reports of Inspectors of Schools, for 1859 and 1860.

(Continued.)

Inspector TANGUAY'S Report.

The progress made in this district of inspection (counties of Kamouraska, Rimouski and Temiscouata) was not very remarkable, but it would be seen with pleasure that, at least, it was continuous and upon the whole satisfactory. When we take into consideration the scarcity of money in this rural district, especially in the new parishes, the contributions appear in some instance very liberal, and prove that an interest had been awakened in the minds of the people for education. The following municipalities were entitled to honorable mention for their laudable efforts: Ste. Anne No. One, contributing \$190 and receiving a grant of \$70; St. Edouard, amount of assessment \$504 and of the grant \$139; Ile Verte, assessment \$668.50, grant \$370.22; St. Simon, assessment \$401.37, grant \$127.20. Other municipalities were assessed to double the amount received from the Education Office; and nearly all did as much as lay in their power. If the teachers could not be paid higher salaries, it was because a good number of schools were maintained in every municipality, so that the benefits of education might be extended to all the children in the district.

A glance at the figures contained in the following table will show the progress made under the working of the School Law:—

| Years. | No. of municipalities. | No. of schools in operation. | No. of pupils. | Model schools. | Girls superior schools. | Teaching convents. | Amount contributed. |
|---------|------------------------|------------------------------|----------------|----------------|-------------------------|--------------------|---------------------|
| 1852 | 21 | 91 | 2000 | 3 | 2 | 1 | £ 1975 10 0 |
| 1853 | 25 | 129 | 4800 | 4 | 3 | 1 | 2021 0 0 |
| 1854 | 26 | 143 | 5790 | 6 | 5 | 3 | 2200 0 0 |
| 1855 | 26 | 150 | 6592 | 6 | 5 | 3 | 2616 2 11 |
| 1856 | 28 | 154 | 6917 | 5 | 4 | 3 | 2875 0 0 |
| 1857 | 29 | 153 | 6692 | 9 | 3 | 3 | 3403 17 9 |
| 1858 | 29 | 162 | 6590 | 13 | 2 | 4 | 2615 0 0 |
| 1858-59 | 31 | 171 | 7392 | 8 | 2 | 5 | 3133 3 5 |

The number of model-schools appears greater in Mr. Tanguay's reports for 1857 and 1858 than in that for the year 1858-59, be-

cause, he says, he had designated under this head, schools which, from the nature of the branches taught in them, deserved to be classed as such, though the teachers had not the required diploma, but this classification he avoided in 1858-59, conforming himself strictly to the letter of the law in this respect. The inspector expresses a hope that all the teachers, without exception, in the district would be provided with diplomas by the end of the year (1860). Some female teachers had travelled 300 miles during the preceding winter for the purpose of conforming to the law; and as they were so poorly remunerated for their services, the commissioners were naturally very unwilling that they should be sent away without the legal qualification. The diplomas, no doubt, could be obtained with too great a facility, as he had remarked on a previous occasion. The Board of Examiners of this district was composed of upright and sincere friends of education, but they were perhaps too indulgent; the timidity often felt by young girls when giving their answers probably disposing members to this fault as did also the long and tedious journeys which several candidates had to make in order to reach the Boards of Examiners, and the strong recommendations with which most of them were provided.

The schools in the County of Kamouraska were well attended and in general supplied with all the necessary articles; but those in the County of Temisconata were in a somewhat inferior condition. In the upper part of the County of Rimouski the inhabitants contributed to the support of the schools with some degree of liberality; yet the attendance was irregular. The lower part of the county was the least prosperous in the whole district of inspection; and the assessed were often slow to pay their school tax, though they seemed willing enough to do so. The prizes which the Department so liberally placed at the disposal of the inspectors helped to make their visits more popular and greatly stimulated the ambition of the pupils.

The thirty-three municipalities of the district are next reviewed separately.

1. *St. Anne No. One.*—This municipality contained nine schools, including a model-school kept on an excellent footing and which was all that could be desired; its teacher, Miss A. Richard, who had occupied her present situation for a period of six years, continued to give entire satisfaction in the discharge of her duties. Of the elementary schools 7 were well conducted, and answered the wants of the population, but the remaining one had made little progress. All the teachers had diplomas, and the law was carried out regularly and without difficulty; the results obtained being, on the whole, satisfactory. The collection of the assessment was, however, backward, and, owing to want of energy on the part of the commissioners, would not be completed without much loss of time.

2. *St. Anne No. Two.*—There were but two schools here,—one a superior girls' school, under the able management of Miss A. Gagnon, assisted by two mistresses; the other an elementary school for boys. These, together with the fine and flourishing College of St. Anne, which is situated within the limits of this municipality, afford every facility to those who wish to give their children a solid education. In the superior female school, in addition to the usual branches taught in these institutions, instruction was given in English grammar, music, &c. These schools had been attended by 115 pupils, and their success was truly remarkable. The fact that these two institutions had been so well maintained without the assistance of any special grant from the Department of Education, was due to the great exertions made by the people in their behalf. The proceedings of the corporation had been regularly recorded.

3. *Lexicorth, or St. Onésime.*—There were but two schools kept here—one not unsuccessfully, but the other had made little advance; the attendance at both numbered 71 children. The rates were paid as well as the limited means of the assessed permitted. Indifference and the want of proper means were the main drawbacks.

4. *St. Patome.*—Five schools in operation, of which two were tolerably well kept, two indifferently so and one was not of much service. They had been attended irregularly, and most of the pupils were ill-provided with books, &c. In several districts the people were very indigent; and this was, no doubt, due to their want of confidence in the abilities of the young female teachers employed at low salaries. The desire to multiply the number of the schools without increasing the expense was the primary cause of this trouble. The progress made during the year was but moderate—less than that which marked the years preceding. The secretary-treasurer was punctual in the discharge of his duties, and the assessments were collected with some degree of regularity.

5. *Rivière-Quelle.*—In this municipality two important reforms had been effected; they consisted in the substitution of the legal assessment for the system of the voluntary subscription, and the establishment of two schools in localities where the schoolmaster had long been a stranger. There were now 6 schools in operation, besides that of the convent,—all tolerably well attended, and managed successfully, except one which did not answer the expectations of its supporters. There were 218 pupils attending, and in the convent 73. The old building that served for the latter institution had been replaced by a very fine edifice, built almost entirely through funds obtained from the inhabitants—a circumstance which, adds the report, must be regarded as a mark of esteem for the Ladies of the Congregation, and speaks well for this ancient institution and the parish. The finances of the school corporation were in a prosperous condition, and the greatest regularity was observed in all its proceedings.

6. *St. Denis.*—The commissioners were entitled to much credit for the manner in which they carried the school law into practice. Of the eight schools under their control, 4 might be considered very good, and the other 4 as tolerably well managed. One, however, was poorly supplied with school furniture, books, &c.; but this deficiency would probably not be permitted long to continue. The number of pupils in attendance was 390. Amount of local contributions was more than treble the Legislative grant. A considerable portion of the debts had been paid off; and the number of schools had so increased as to render them readily accessible to all.

7. *Notre-Dame du Mont Carmel.*—Two schools in operation, frequented by only 76 children, but doing much good, as reading, writing, arithmetic and the rudiments of grammar were well taught; the children moreover receiving moral and religious instruction. Some delay occurred in the collection of the assessments, yet the commissioners had discharged their liabilities. The secretary-treasurer kept his accounts carefully. A third school was required, but the narrow circumstances in which a number of the rate-payers were situated prevented its establishment.

8. *St. Louis de Kamouraska.*—The six schools in operation here were tolerably well kept,—the children at some of them having made more than ordinary progress. The boys' academy, conducted by Mr. Lindsay, maintained its reputation for excellence, especially in penmanship and arithmetic. The grievances which had existed for some years past, and which Inspector Tanguay has often deplored in his reports, were gradually disappearing; and with continued exertions, school affairs would become quite prosperous. The finances were in a somewhat embarrassed condition, as through want of firmness on the part of the commissioners, the collection of the rates was not properly attended to. The delay occasioned did not benefit the rate-payers, though it exposed the teachers to much inconvenience.

9. *St. Paschal.*—In this municipality there were nine schools under control of the commissioners, and one that was independent,—the last was supported by the liberality of one person alone and was situated in a very isolated place. The number of children receiving instruction was 375. The schools may be classed thus: 4 very good, 4 tolerably well conducted, and 2 not quite so well. Only one teacher was without a certificate. The Model-school was managed by a trained-teacher from the Laval Normal School; and the examination was successful. The schools kept by Misses Mélanie Michaud and C. Le Bel deserve to be specially mentioned. The funds of the corporation were in a state of prosperity, and the accounts were punctually attended to.

10. *St. Helen.*—Only four schools had been kept open here during the first half-year, but two others were to be established. One was well conducted, 2 others were tolerably well kept, but the fourth was a very indifferent school. The number of children frequenting the schools was 127, and education had made some progress. The accounts were kept in a satisfactory manner and the proceedings regularly recorded.

(To be continued.)

List of Diplomas and Standing Granted to Teachers in Training of McGill Normal School, at the Close of the Session of 1861-62.

1. Model School Diplomas.

1. Robert Laing, of Buckingham, honourable mention in the Art of teaching, in Geography, English Literature, Arithmetic, Algebra, Geometry, Natural Philosophy, Botany, Agriculture, Perspec-

tive Drawing, French, and teaching in the Model Schools. Prince of Wales Medalist.

2. Mary Elizabeth Kyle, Sherbrooke, honourable mention in Composition, Botany, Perspective Drawing, Vocal and Instrumental Music and teaching in Model School.

3. Mary Henderson, Montreal, honourable mention in History, Composition and French.

4. Maria Jane Cockburn, Montreal, honourable mention in Geography and Composition.

5. Susan Elizabeth Falkner, Montreal, honourable mention in Composition.

6. Evra Locke, Montreal, honourable mention in Composition and Reading.

7. Elizabeth Elliott, London, C.W., honourable mention in Arithmetic.

8. Jane Middlemiss, Montreal, honourable mention in History, Grammar, Composition, Arithmetic, Algebra, Perspective Drawing, Reading, and teaching in Model Schools.

9. Charles Cooper, Chambly, honourable mention in English Literature and Drawing.

10. Amelia Smith Hampton, Montreal.

II. Elementary School Diplomas.

1. Joshua Alexander Bell, Montreal, honourable mention in Geography, Composition, Art of teaching, Arithmetic, Book-keeping and Algebra.

2. Francis Parker, St. Angelique, honourable mention in History, Geography, Grammar, Composition, Zoology, teaching in Model Schools.

3. Ezra Ball, Bolton, honourable mention in Grammar, Composition, Arithmetic, Algebra, Geometry; teaching in the Model Schools.

4. Maria Gill, Montreal, honourable mention in Algebra, Geometry, Zoology.

5. Isabel Crichton, Valleyfield, honourable mention in Grammar, Composition, Zoology and French.

6. Jane Ross, Lancaster, C. W., honourable mention in Grammar.

7. James Walker, Nottan, honourable mention in Geometry, Natural Philosophy.

8. Margaret Walsh, Cornwall, C.W.

9. Robina Patterson, Montreal.

10. Catharine Nolan, Beech Ridge, honourable mention in Geometry, Natural Philosophy.

11. Margaret Josephine Free, Montreal.

12. Emma Jane Hampton, Montreal.

13. Rose Jessie Bryson, Montreal.

14. Margaret Walker, Beech Ridge.

15. Jemina Anderson, Beech Ridge.

16. Mary Caroline Garlick, Montreal.

17. Sarah Jane Leaner, Longue Pointe.

18. Eliza White, Montreal.

19. Jessie Fraser, Montreal.

20. Ellen Elina Briggs, Montreal.

21. Teyphena Shaker, Lacolle.

22. William Gray, Shoolbred, honourable mention in Geometry.

23. Lucella Jane Osborne, Montreal.

24. Isabella Christie, Martintown.

25. Annie Luttrell, Montreal.

26. Sarah Johnson, Montreal.

27. Mary Stevens, Thurso.

28. Isabella McMartin, Martintown.

III. Promoted to Senior Class.

1. Sarah Cairns, entitled to the Elementary Diploma, but under age—honourable mention in Geography, Grammar and Algebra.

2. Ellen Hanvee, entitled to the Elementary Diploma, but under age.

3. Elizabeth Ann Fraser.

4. Jennie DeGolyer.

5. Agnes Rowan.

MONTHLY SUMMARY.

EDUCATIONAL INTELLIGENCE.

— A deputation of members of Parliament and other gentlemen, including the mayors of several corporate towns, waited on Lord Pal-

merston, at Cambridge-house, Piccadilly, London, on Saturday, July 6th, to present memorials and make representations to the noble lord in favour of granting a charter to a University for the Education of Roman Catholics. Mr. Maguire, M. P., introduced the deputation, and, having handed to the noble lord several memorials, proceeded to explain the object of the deputation, which was, he said, to obtain a charter for the Catholic University founded in Dublin. The people of Ireland took the deepest interest in this question. They had subscribed 80,000*l.* to found the University, and within the last year they had contributed 8000*l.* for its maintenance. They had also founded scholarships amounting to the annual value of 1000*l.* Almost all the Irish corporations memorialised for the charter. The liberal Protestants of Ireland joined in the prayer of these memorials. The State had spent very large sums in the foundation and maintenance of the Queen's Colleges, which it was admitted had not fulfilled the anticipations of their founders. The Government had also given charters to Catholic universities in Canada and India. The deputation did not ask any money from the State. All they wanted was free education—that persons educated in the Catholic University might be able to obtain a degree under charter. The noble lord replied to the deputation that he could hold out no expectation that their request could be complied with, as the avowed object of the Catholic University was to introduce into Ireland the principle of denominational education, a principle, he said, at variance with the views of every successive government in this country for the last quarter of a century.—*Educational Times.*

MISCELLANEOUS INTELLIGENCE.

— The *London Gazette* of Friday, July 25th, announces that Her Majesty has been graciously pleased to confer the degree of Companion of the Civil Division of the Most Honorable Order of the Bath upon the Hon. Francis Hincks, Governor and Commander-in-Chief in and over the colony of British Guiana, and upon the Hon. Henry Black, Judge of the Vice-Admiralty Court of Canada. The honorable distinction bestowed upon Judge Black will be hailed by his fellow-citizens and by Canadians generally, as a well deserved tribute to his learning and eminent public services.

— We regret to announce the demise of Sir Allan MacNab, which took place at his seat, Dundurn, near Hamilton, yesterday afternoon, at four o'clock. For some days Sir Allan had been ill with gastric fever, but although additional medical aid had been summoned from Toronto, a fatal termination to his sickness was not expected, and his ailment was not even mentioned by the press. Some time ago, Sir Allan was severely afflicted with gout, but the malady seemed to have yielded to the skill of his physician, and his appearance of late appeared to promise some years of life, if not of activity or perfect health.

Sir Allan Napier MacNab was born in the town of Niagara, in 1798, and was consequently at his death in his 65th year. His grandfather was a Highland gentleman of small property. His father was an officer in the army, who became attached to the staff of General Simcoe, during the revolutionary war, and afterwards accompanied his command to this Province. In 1812, Sir Allan, then very young, carried a musket when the Americans attacked Toronto, and afterwards served as a midshipman on board Sir James Yeo's fleet, taking part in the naval warfare of the lakes. Afterwards, he joined the 100th Regiment, with the rank of ensign, and did good service on the Niagara frontier, and afterwards at Plattsburgh. The peace left him on half pay. He then studied law, and was employed as a clerk by the Legislative Assembly. Called to the bar in 1825, he commenced the practice of his profession in Hamilton, and, being successful was made Queen's Counsel, and elected to Parliament for the county of Wentworth in 1829. While going through the routine of a member, and also Speaker of the House, and a lawyer, Sir Allan was called into a field probably much more congenial to his tastes, by the rebellion of 1837. His early knowledge of military affairs, his perfect acquaintance with the country, and more than all his courage, activity and facility in commanding men, made him the most prominent figure among the loyalists who took part in the defence of the country. He marched to the defence of Toronto with the men of Gore, hastily summoned from their farms and workshops, and afterwards took an active part in the Navy Island operations, on the Niagara frontier. For these services, he received the honor of knighthood, the thanks of Her Majesty, and of the Provincial Legislature.

After the Union, Sir Allan was elected to Parliament for the city of Hamilton, several times in succession. In 1844 he was elected Speaker of Lord Metcalf's Parliament by a narrow majority, and did all that was in his power to assist his party, then under the leadership of Draper and Sherwood, to maintain office amidst very difficult circumstances. In 1848, when the Baldwin and Lafontaine Government came into office, Mr. Draper having retired to the bench, Sir Allan MacNab became the leader of the Conservative Opposition, and took a very active part in resisting the Rebellion Losses Bill, a resistance which led to the burning of the Parliament House in Montreal. He continued to oppose the Hincks' Government when it was formed, although on many questions, and particularly on that of rail ways, he agreed with the leader of the Government much more clearly than many of that gentleman's regular supporters. In 1854 he was called upon, with Mr. Morin, to form a Government, and continued in office until 1856, when he was ousted by an intrigue. Shortly before the dissolution of Parliament in 1857, he resign-

ed his seat for the city of Hamilton and left Canada for England, designing to make it his permanent residence. In 1859, having previously received the rank of Baronet, he became a candidate for the town of Brighton, but was defeated by a considerable majority; and his health being improved, he returned to Canada soon afterwards. On the retirement of Col. Prince from the Western Division in 1860, Sir Allan became a candidate for a seat in the Legislative Council, for that constituency, and was elected by a small majority over Mr. James Dougall. After that event he became reconciled to Mr. J. A. McDonald, the leader of the Upper Canada section of the Government, and at the opening of the late session was chosen the first elective Speaker of the Legislative Council, by a small majority over Mr. Alex. Campbell, of Kingston.

This brief sketch of Sir Allan's career exhibits him in a prominent and even distinguished position, as a soldier, a lawyer and politician. He possessed great courage, activity and self-confidence, which gave him extraordinary force of character. He had a handsome person, a pleasing address, a tact which never failed him in any position, or under any circumstances. Not remarkable either as a student or as a speaker, he may, nevertheless, be fairly described as a successful lawyer. Not eminent for his knowledge of political economy, or the principles which ought to guide the rulers of nations, he was, nevertheless, an influential politician. We do not know that he ever studied Jomini, but he was a successful soldier according to his opportunities. His courage, activity and self-confidence, abundant tact, and restive shrewdness, carried him through difficulties which would have baffled men much more highly endowed in intellect and education.

He was a man of liberal tastes, upon which he set but slight restraints. His house near Hamilton, named Dundurn, after the residence of his grandfather in the Scottish Highlands, was the most pretentious building in Western Canada at the time it was erected, and there Sir Allan displayed a liberal hospitality, which secured him many friends and much political and social influence.

Sir Allan married first, on the 6th May, 1821 Elizabeth, daughter of Lieut. Daniel Brooke, who died in 1825; by whom he had one son and one daughter. The former died in 1831, the latter (Ann Jane) married in 1849 Assistant Commissary General Davenport. Sir Allan MacNab married secondly in 1831, Mary, eldest daughter of Mr. Sheriff Stewart of the Johnstown district, who died in 1846, by whom he had two daughters, the eldest of whom (Sophia) married in November, 1835, Right Hon. Viscount Bury, eldest son of the Earl of Albemarle; now a member of the House of Commons, and an officer of Her Majesty's household. The younger married in 1861, a son of Sir Dominick Daly, Governor of South Australia.

Sir Allan's death leaves a vacancy in the Western Division, and the Speakership of the Legislative Council. It leaves a larger vacancy in the list of public men. A permanent and active leader in the affairs of the Province, associated with all the great events of the last half century, his departure will be felt deeply by thousands, who took part in the same events and witnessed the same scenes.—*Globe*.

LITERARY INTELLIGENCE.

—Under the usual heading will be found the announcement of the death of William Grant Sewell, Esquire, Advocate, son of Sheriff Sewell of this city. The deceased had been, for a number of years, connected with several of the leading New York journals, and had contributed extensively to many of the most popular American periodicals. He was a gentleman of strong literary taste, a persevering student, and a graceful writer. His last and greatest work, "The Ordeal of free Labor in the West Indies," a treatise on the results of negro emancipation, written from personal observation, and published we believe in 1861, had established his reputation as an accomplished writer. He will be long regretted by a numerous circle of personal friends, to whom his amiable manners had endeared him, while thousands to whom he was known through his works will mourn the early death of one before whom a brilliant literary career had just opened.—*Morning Chronicle*.

—The students of Canadian History will learn with satisfaction, that the Historical Society of Montreal contemplates the publication, in book form, of two important MS narratives of the American invasion of Canada in 1775. These documents form part of a valuable collection of manuscripts made by the late Commander Viger, and are enriched with copious notes and commentaries by the learned gentleman himself. The period is a very interesting one to the student, and the causes, events, and objects of the war, have been differently stated by American and Canadian authors.

—The following interesting note we give as bringing out a fact new to most of our readers in connection with the early history of Canada.

My dear Sir,—The other day you appeared to take some interest in the fact that Rabelais had mentioned "Canada." The reference is to be found in *Liv. iv, ch. 2*. Pantagruel discovered the "isle de Medamothi" the circuit of which "n'estoyt moins grand que de Canada." The first two books were printed for the first time, so far as is known, in 1533 (the year Cartier discovered Canada) but the fourth book, or I should rather say the first eleven chapters of it, only appeared in 1547. This tends to confirm Garneau's opinion, which however could hardly be doubted, that the name of Canada is of native and not European origin, for we

find it no where prior to Cartier's discovery, but immediately afterwards it is made a point of comparison and the country is alluded to as the wonder of the day.

Yours faithfully,

T. K. R.

SCIENTIFIC INTELLIGENCE.

—A paper was read last month by the Rev. Dr. Honeyman, "On the geology of the Gold Fields of Nova Scotia," before the Royal Geological Society. The strata passed through from Lunenburg and Allan's farms to Mount Uniacke, and thence onward in the same direction were described, the paper being prefaced by an interesting sketch of the history of the discovery and working of gold in the province. In the course of the discussion which followed, Sir W. Logan said that he believed the granites of Nova Scotia to be of Devonian age; they had the same in Canada. In Canada it was certainly of newer age than that which they gave to the gold-bearing rocks; this formation is traceable through Maine to New Brunswick, and thence westward. They had found gold in Canada, and at the International Exhibition they had now two nuggets, weighing respectively 8 and 4 ozs. He would be glad if Dr. Honeyman could tell them whether chrome iron has been found in the gold-bearing rocks of Nova Scotia, because he had observed that it was usually found in rocks of that character.—Sir R. Murchison thought that gold was seldom found in great or even appreciable quantities except in the Lower Silurian rocks; he might say between the bottom of the Lower Silurian and the end of the palaeozoic. Dr. Honeyman said that he had received the specimens of serpentine from Dr. Dawson, and they were said to have been got from that region. He did not know that there was any chrome iron; the gold principally occurred in the chloritic slates.—The President said it was contended that the gold-bearing drifts were derived from Lower Silurian strata, but the question was were they spread out over countries where the Lower Silurian did not occur?—Sir William Logan thought the drifts were, no doubt, derived from the Lower Silurian.—The President was bound to admit that there was much in the hypothesis that gold is found in the Lower Silurian formation, and there might be something to be learnt in connection with them from the hypothesis propounded by the author of "Ore in Mineral Veins."

The third paper by Mr. J. W. Salter, comprising notes on some fossil crustacea from the lower coal measures of Nova Scotia, on Eurypterus, and on some Tracks of Crustacea in the Lower Silurian Rocks, was of an exceedingly interesting character but as it was profusely illustrated a satisfactory abstract is scarcely possible. An interesting discussion followed, at the conclusion of which the President observed that some of the speakers had apparently somewhat misunderstood Darwin's hypothesis, which he considered supposed change but not necessarily progression.—The meeting then separated.—*U. C. Journal of Arts*.

—Another discovery threatens to change our railway plan, perhaps our railway system. M. Girard, under the patronage of the Emperor, has constructed an experimental railway, on which the carriages are impelled after the manner of a sledge. The runners of the sledges rest on a species of hollow clogs, between which and the rails water is introduced. Thus the carriages slide on a thin layer of water, and friction is almost annihilated. The success of the experimental railway is stated to be so decided that the Emperor has appointed a commission to report on the system.—*Athenaeum*.

—The value of mica depends upon the size of the sheets and their transparency; the clear, rubytinged being the finest, and the cloudy grey the least valuable. With regard to the mica from British possessions, it appears that the sale of Canadian has been much damaged through the carelessness of those shipping it. The first parcel, of about 1 ton, which Messrs. Nash and Lienard received was sold at 2s. 1d. per lb.; and the second, of about 1 ton, realised 2s. Since this the quality has not been kept up; the third parcel, of about 1 ton, required careful sorting after arriving in this country, to render it marketable at all, and then sold one-half at 2s. and the remainder at 7d., the nett amount cleared and transmitted to Canada being only 147l., or about 1s. 1d. per lb. The same firm has since undertaken to import mica from Calcutta, and the quality is so much superior to that from Canada that the latter is now saleable only at a very low price. The Calcutta mica is indeed, about equal to that from Siberia, and is at present readily saleable at from 2s. 6d. to 4s per lb. according to quality, and the quantity taken. Owing to varying quality the price of mica varies considerably; Canada mica will range from 3d. to 2s., and Calcutta from 6d. to 4s., lb.—*Mining Journal*.

—Mr. Crookes, whose discovery eighteen months ago of thallium by the spectroscope we have already announced, has since prepared numerous compounds of it, some samples of which are to be seen in the Chemical department of the International Exhibition. We were shown some time since a specimen in its pure metallic state, obtained by Mr. Crookes, but as no detailed statement of its characters, nor of the nature and actions of its salts, have been as yet published, although a short abstract has been displayed with the specimens since the opening of the Exhibition, it may be interesting to our readers to know what this new element—the only one discovered by an English chemist since Sir Humphrey Davy's detection of the metallic bases of the alkalies—is

like. It is a dense heavy, rather lustrous metal, very like lead, to which metal it is also very similar in its physical properties, but is a trifle heavier, and tarnishes perhaps a little quicker. Its colour, however, is not identical. In chemical properties it is similar to mercury, lead, and bismuth. Mr. Crookes is continuing his researches, and we are glad to state that the Royal Society has voted him a grant of 50*l.* towards the expenses of these costly investigations.—*London Review.*

—Had it not been for the watchfulness of the officials, the International Exhibition would have lately stood a good chance of being burnt down on very philosophical principles. In the Japanese Court, Messrs Baring Brothers exhibit two extraordinary quartz spheres, four or five inches in diameter, ground and polished with mathematical nicety. These spheres stood side by side on a mahogany stand in the Japanese Court, attracting but little attention from the public, until one very sunny day a visitor suddenly rushed to the office of the department with the alarming intelligence that "the two glass globes had caught fire!" The officials, on going to the spot found the stand in a blaze, the sun having shone directly through the globes, which, of course, acted as burning-glasses, setting the woodwork on fire. There are now two holes in the mahogany stand large enough to insert the top of the finger. These holes are very interesting, as they are each double, showing perfectly the double refracting properties of the quartz. The spheres have been removed into the Chinese Court, that part of the building being quite in the shade.—*Chemical News.*

—A weak solution of chloride of lime is said to preserve plants from insects if sprinkled over them. Flies are also got rid of in stables and other places by scattering chloride of lime on a plank. If the same substance is mixed with half its weight of some fatty matter, and a narrow band of the composition smeared round a tree, insects will not pass it.—*Ibid.*

—Professor De la Rive has communicated to the "Philosophical Magazine" some interesting researches on Auroræ Boreales. He begins with calling attention to two fundamental points as confirmed by observation and regarded as definitively established.—1. The coincidence of the occurrence of aurora in the northern and southern hemispheres, particularly at Christiania and Hobart Town. 2. That the phenomenon is an atmospheric one. He then proceeds to state that the occurrence of aurora is satisfactorily accounted for by admitting, in conformity with the data furnished by direct observation, that, the waters of the ocean being continually charged with positive electricity, the vapours which arise from them act as a conductor of this electricity, so far as the upper strata of the atmosphere, where, carried towards the Polar regions by the trade winds, they form as it were a positive envelope to the earth, which itself remains charged with negative electricity. But the earth and the highly rarefied air of the elevated atmosphere regions being perfect conductors, they may be regarded as forming the two conducting-plates of a condenser, of which the insulating stratum is the inferior portion of the atmosphere. The two antagonistic electricities must then necessarily be condensed by the mutual influence in those portions of the atmosphere and of the earth to which they are the nearest, consequently in the regions near the poles, and there neutralise themselves in the form of discharges more or less frequent, as soon as their tension reaches the limit which it cannot exceed. These discharges should take place almost simultaneously at the two poles, since, the earth being a perfect conductor, the electric tension should be nearly the same at each. There can only be differences in the intensity of the discharges in one region and the other, and from one instant to another in the same region, since the resistance of the stratum of air which separates the two electricities must constantly vary from sundry causes. It is evident, too, that the neutralization of the opposite electricities would not be effected instantaneously, but, considering the non-conducting power of the medium through which it takes place, by successive discharges more or less continuous and variable in intensity. For details of the interesting experiments by which M. De la Rive believes that he has established the correctness of the foregoing principles, we must refer our readers to the memoir itself.—*Educ. Times.*

FINE ARTS AND INDUSTRY.

—Mr. Falardéan, the distinguished Canadian artist who pursued his career so successfully at Florence, lately visited his native country for the first time after an absence of many years. He brought a limited number of works of art, copied from the best masters, which he disposed of among the connoisseurs in Montreal and Quebec.

—Another Canadian, Mr. Anatole Partenais, a native of Industry, who studied sculpture at Paris has just won the second prize at the *School of Fine Arts.*

THE CANADIAN DEPARTMENT AT THE LONDON EXHIBITION.—(*Abridged from a correspondence in a N. S. paper.*) Canada is a world in itself, anxious to make a show and able to do it. The Canadians have bestowed immense pains on their department and have gone to great expense. They have no fewer than four Commissioners here in charge, besides a number of subordinates. Sir W. Logan is here to look to the mineral and geological section, and assuredly he has made the most

of it. The Lumber of Canada is displayed to great advantage in a pyramid whose top reaches not quite to the clouds but sufficiently near them to be alarming. Canada wheat yields only to that of Australia.

The Photograph department is very superior—indeed it is equal if not superior to anything executed in England—especially in *untouched* portraits. Our friends make the most of their magnificent scenery. Here is Niagara in fifty different forms—in oil, in water, in light, in lead, in ink; Niagara with all the heaving icicles and threatening icebergs of winter; Niagara in all the loveliness of summer—in moonlight, in sunlight, from the American side and from the Canadian side. Many other scenes are here in photograph or some other style.

We must confess it—all the lower Provinces together fail to make the impression that Canada easily produces. The space assigned to her is equal to all the rest, and she occupies it well. Her wooden trophy is overdone however, and it is no wonder the *Times* calls for its disappearance. But her minerals, her manufactures, her lumber and timber, her grains—all demonstrate her wealth and greatness. If the Canadians do not become a powerful and opulent people it is not the fault of the country. By a curious oversight, she has no place in the *Official Catalogue* issued by the Commissioners here. No doubt this will be remedied by and by; but it has annoyed the Canadians a good deal. A similar oversight has happened with regard to Prince Edward Island.

—The following is the list of Prizes awarded to Canadians at the London Exhibition.

Medals in Class One.

Billings, E. of the Geological Survey: For his published decades on Canadian fossils and his valuable general contributions to paleontology.—English and Canadian Mining Company: For the skill and perseverance with which they have opened their ground, and the discovery of deposits conformable with the stratification.—Foley and Co.: For plans of mines, ores, and lead, smelted in the colony.—Hunt, J. Sterry, of Geological Survey: For the instructively described series of the crystalline rocks of Canada, and his various published contributions to geological chemistry.—Larue and Co.: For excellent cast iron railway wheels made from bog iron ore, which have run 159,000 miles.—Montreal Mining Company: For interesting series of copper ores, accompanied by plans and sections of the workings.—Taylor, A.: For good specimens of crude and prepared gypsum, with plans and sections of the gypsum mines.—The Officers of the Geological Survey of Canada: For an admirably prepared collection of specimens, illustrating the mineral resources of the Province.—Walton, B.: For the discovery of good roofing slates.—West Canada Mining Company: For specimens and plans illustrating a well worked copper mine.—Williams, for Canadian Oil Company: For introducing an important industry by sinking artesian wells in the Devonian Strata for petroleum.

Honorable Mentions in Class One.

Davies, W. H. A.: For interesting and instructive specimens from a remarkable deposit.—McCaw, T.: For fine and instructive specimens of ore, running with the stratification, and illustrating the structure of the country.—Sweet, S. and Co.: For fine and instructive specimens of ores, running with the stratification, and illustrating the structure of the country.

Class II.—Section A.—Medals.

Benson and Aspiden: Samples of Indian corn starch. For the excellent quality of samples.—Canadian Oil Works: For an extensive exhibition of the derivatives of petroleum.—McNaughton, E. A.: Flour and potato starch. For the excellent quality of samples.—Pearson Brothers: For an extensive exhibition of the derivatives of petroleum.

Class III.—Section A.—Medals.

Agricultural Board of Upper Canada: For samples of wheat from various counties, of excellent quality.—Agricultural Society of Huntingdon, Lower Canada. (One medal to grower.): For pens, 40 bushels per acre. Grown by John Penis.—Agricultural Society of Wellington: For wheat of excellent quality.—Agricultural Society of Wentworth and Hamilton. (Three medals to growers.): For blue-stem wheat, grown by J. H. Anderson; for red chaff wheat, grown by John Smith; for potato oats, grown by A. Goric. Very superior in quality.—Boa, W.: For all his samples in collection.—Denison, R. L.: Indian corn stalks. For extraordinary growth.—Erans, W.: For collection of grains and seeds, excellent and interesting.—Fleming, J.: For seeds and grains, as excellent and interesting.—Johnstone, B.: For samples of Soule's winter wheat, of excellent quality.—Logan, J.: For spring wheat of excellent quality.—Peel (County) Agricultural Society, Upper Canada. (Medal to John Lynch, Secretary): For barley, pens, and two kinds of spring wheat, all of excellent quality.—Shaw, A.: For rye of excellent quality.—The Agricultural Society of Beauharnois. (Two medals awarded to growers). For flax seed, grown by C. Burguin, for grass seed, grown by C. Tait.—Wilson, J.: For oatmeal of excellent quality.

Hon. Mentions.

The Agricultural Society of Huntingdon, L. C.: For barley grown by Mr. McNaughton.—The Agricultural Society of Wentworth and Hamilton: The collection of wheats. Goodness of quality.—Badham, T.: For

Oats of good quality.—Logan, J.: For Barley. Goodness of quality.—Shaw, A.: For Indian corn and marrowfat peas. Excellent quality.—Wilkins, C.: Indian corn. Goodness of quality.

Class III.—Section B.

Brown, D.: Maple sugar. Excellence of quality.—Reinhardt, G.: Hams. Excellence of quality.

Hon. Mention

Rev. F. L. Heureux: Maple sugar.

Class IV.—Section C.—Medals.

Blaikie and Alexander: For dressed flax.—Bridge, Andrew: For a tub on a new principle of construction, exhibiting much taste and ingenuity.—Eddy, E. B., Ottawa: For machine-made wooden pails and tubs—at exceedingly low prices.—Ingersoll, C. Lewis: For a cask constructed on a new and ingenious principle for five liquids.—Laurie, James: For planks and logs, and 21 named specimens of woods from the Ontario district.—McKee, Hugh: For a scientifically-named collection of 98 of the woods of the Colony, accompanied with leaves, &c.—Moore, T.: For a large collection of excellent handles for tools and implements in hickory and other woods.—Nelson and Wood: For whisks and brooms of sorghum straw, at very low prices, from 1s 6d to 6s per dozen.—Potter & Co., Duncan: For 19 very fine squared logs of timber.—Provancher, the Abbé: For a very extensive, accurately named, and extremely well illustrated collection of the woods of the Colony, accompanied with dried specimens, useful information, &c.—Sharp, Samuel: For a magnificent collection of planks, polished slabs, veneers, and a named collection of 26 specimens, all from the western districts.—Skead, James: For a magnificent collection of planks, logs, and a scientifically named collection of 37 woods, all from the Ottawa district.—Van Allan, D. R.: For planks and logs all magnificent specimens, from the Thames district, and 21 scientifically named specimens.—Trembicki, A. L.: For magnificent logs of white oak, rock elm and hickory.

Hon. Mention.

Bronson, A.: For magnificent sections of strobis and white oak.—Burrows: For fine sections of "Landrus sassafras."—Choate, Jacob: For fine cherry wood and soft maple planks.—Coutlée: For named collection of 72 woods of the colony.—Gingras, G.: For fine planks of timber.—Crooks, Miss: For collection of 490 native plants.—Prioux, F. X.: For a named collection of 74 woods of the colony.—Rose, E. H.: For a box of very fine black walnut veneers.

Class V.—Medal.

Larue & Co.: Cast-iron hollow wheels. For excellence of workmanship and proved durability.

Hon. Mention.

Sharp, S. Hamilton: Model of sleeping and freight cars.

Class VIII.—Hon. Mention.

E. O. Reebard, Quebec: Model of water-wheel.

Class IX.—Medals.

Gaskin, Captain P.: For his collection of agricultural tools.—Jeffry, J.: For his iron plough.—McSherry, J.: For his iron plough.—Morley, J.: For his iron plough.—Paterson, J.: For his iron plough.—Whiting & Co.: For their collection of agricultural tools.

Hon. Mention.

Sovereign, L. L.: Combined cultivator and drill.—Collard, H.: Cultivator.

Class X.—Section.

Brown, J.: Excellence of hydraulic cement.—Stephenson, Representatives of the late R.: For Victoria Bridge.

Hon. Mention.

Stephenson, W., & Sons: Good quality of bricks.—Bulmer & Sheppard: For the excellence of their bricks.—Gibb, T.: For the excellence of their white bricks and drain tiles.—Missisquoi Drain Tile Company: Drain tiles of good quality.—Betts, E. L.; Hodges, J.; Peto, Sir S. M., Bart., M.P.: A collective honorable mention for the successful execution of the Victoria Bridge, and for the ingenuity displayed by Mr. Hodges in constructing the coffer-dams for the same.

Class XXI.—Medal.

Commissioners for Canada: Display of woollen goods and hand-spun yarns manufactured in the colony.—Mrs. Dumphy—Messrs. W. Stephen & Co.

Class XIV.—Medal.

Notman, Montreal: For excellence in an extensive series of photographs.

Class XXIX.—Medals.

Chauveau, Hon. P. J. O.: For the merit of his collection of educa-

tional journals and reports.—Passmore, S. W.: For his collection of birds and fish.

Hon. Mention.

Thompson, J.: For collection of birds.

Class XXI.—Hon. Mention.

Snell, Montreal, for machine made nails.

Class XXXII.—Medals.

Gaskin, R. Kingston: Collection of agricultural hand implements.—Tongue and Co., Ottawa: Assortment of edge tools, highly finished.

STATISTICAL INTELLIGENCE.

—A return has been made respecting the cotton, woollen, worsted, flax, hemp, jute, hosiery, and silk factories in the United Kingdom, subject to the factories Acts. It shows a number no less than 6,378, with 36,450,028 spindles and 490,866 power looms, and motive power equal to 375,294 steam and 29,339 water. 775,534 persons are employed in these factories, 308,273 males and 467,261 females; 69,593 are children under 13, about half boys and half girls. Taking the cotton factories, we find that in 1850 they were returned 1932 in number, with 20,977,017 spindles, 248,627 power looms, and 82,555 motive horse power; but the cotton factories now are 2887 in number with 30,387,467 spindles, 399,992 power looms, and 294,130 horse power. The people employed in the cotton factories in 1850 were but 333,924; they are now 451,569. The males under 13 have increased in this interval from 9,482 to 23,081; and the females under 13 from 5,511 to 17,707; of the workers above 13, the males have increased from 132,019 to 160,475, and the females from 183,912 to 251,306. So that in the period since 1850, according to returns laid before Parliament then and now, the motive horse power in the cotton factories is described as having increased no less than 256 per cent., which is very much faster than the increase either in raw cotton imported or cotton goods exported; the persons employed increased only 36 per cent.; but the number of those under 13, 163 per cent.—*U. C. Journal of Arts.*

—The colony of Victoria excited great interest for its gold in the Exhibition of 1851, being at that time only a dependency of New South Wales, and having a population of 77,000 inhabitants. It has since become an independent colony, and has now a population of 540,000. It appeared from the Custom-house returns that the export of gold in 1851 amounted to 145,000 ounces—equal to £580,000; whilst in 1860 it was 2,156,000 ounces—equal to £8,626,000; and the aggregate of the export in ten years was 24,000,000 ounces—equal to upwards of £95,000,000. In addition to this, there was an amount which did not appear in the returns, estimated at 2,000,000 ounces more, so that the whole export was 26,000,000 ounces—equal to £103,941,000. There were now 46 thriving towns. In 1851 there were 89 places of public worship, against 874 at the present time; 30 institutions for charitable relief, and a flourishing university. There were 880 schools, with 52,000 scholars; a public library of more than 30,000 volumes, with 117,000 readers in nine months. In the exhibition of 1851 there were 37 trades represented in that department, and now there were 236. More than £5,000,000 had been spent in roads and bridges, and £3,000,000 in public buildings. There were 100 miles of Government railway open, and 182 more in course of construction, involving an expenditure of £8,000,000, 15,000 miles of electric telegraph, costing £163,000. Thus it would be seen that, in ten years, greater progress had been made in that colony than would have been the case, under ordinary circumstances, in a century in an old country.—*ib.*

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McGILL UNIVERSITY,
MONTREAL.

SESSION OF 1862-63.

The Annual Calendar of this University, including the announcement of the Faculties of Law, Medicine and Arts, the Special Course of Engineering, the Course of Applied Chemistry, the High School Department, and the McGill Normal and Model Schools, is now published, and may be obtained gratis on application, post-paid, to the undersigned.

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W. G. BAYNES,
Secretary.