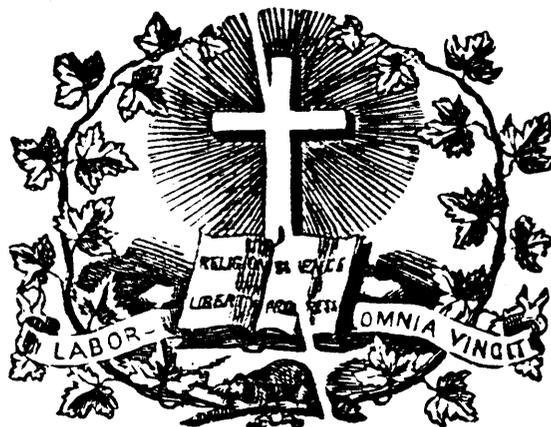


Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- | | | | |
|-------------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> | Coloured covers /
Couverture de couleur | <input type="checkbox"/> | Coloured pages / Pages de couleur |
| <input type="checkbox"/> | Covers damaged /
Couverture endommagée | <input type="checkbox"/> | Pages damaged / Pages endommagées |
| <input type="checkbox"/> | Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée | <input type="checkbox"/> | Pages restored and/or laminated /
Pages restaurées et/ou pelliculées |
| <input type="checkbox"/> | Cover title missing /
Le titre de couverture manque | <input checked="" type="checkbox"/> | Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées |
| <input type="checkbox"/> | Coloured maps /
Cartes géographiques en couleur | <input type="checkbox"/> | Pages detached / Pages détachées |
| <input type="checkbox"/> | Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire) | <input checked="" type="checkbox"/> | Showthrough / Transparence |
| <input type="checkbox"/> | Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur | <input checked="" type="checkbox"/> | Quality of print varies /
Qualité inégale de l'impression |
| <input checked="" type="checkbox"/> | Bound with other material /
Relié avec d'autres documents | <input type="checkbox"/> | Includes supplementary materials /
Comprend du matériel supplémentaire |
| <input type="checkbox"/> | Only edition available /
Seule édition disponible | <input type="checkbox"/> | Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées. |
| <input checked="" type="checkbox"/> | Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure. | | |
| <input checked="" type="checkbox"/> | Additional comments /
Commentaires supplémentaires: | | Continuous pagination. |



THE JOURNAL OF EDUCATION

Devoted to Education, Literature, Science, and the Arts.

Volume XIII.

Quebec, Province of Quebec, December, 1869.

No. 12.

TABLE OF CONTENTS

EDUCATION.	PAGES
On Teaching English, by Prof. Bain.....	201
Teach Children to Draw.....	204
Illinois Industrial University.....	"
Stick to One Thing.....	"
Teaching Spelling.....	205
Rugby School.....	"
LITERATURE.	
Poetry : Christmas.—Hymn to the Nativity.....	206
The Philology of the English Language.....	"
Uncertain Distribution of Honours.....	"
Surnames.....	207
Origin of Great Men.....	"
Extinct Families.....	"
SCIENCE.	
The Recent Eclipse of the Sun.....	207
ART.	
Czerny's Letters on Music.....	209
OFFICIAL NOTICES.	
Ministry of Public Instruction.—Appointments : School Commissioners and School Trustee.—Board of Examiners.—Erection of School Municipality.—Diplomas Granted by Boards of Examiners.....	210
EDITORIAL.	
To the Readers of the Journal.....	211
Report of the English Committee of Council on Education, for 1868-69.....	213
McGill University ;—Founder's Festival.....	214
School of Art and Design, Montreal.....	214
Armorial Bearings for the Dominion.....	215
Miscellaneous.....	215
Meteorological Intelligence.....	216
ADVERTISEMENTS.	
Wanted.—The Dramatic Reader.—Phrenology.—The Journal of Education.....	"

have, therefore, to consider the respective claims of these three branches, and what parts of each should receive especial prominence depends much upon the parts selected. It is quite possible for a teacher, without travelling out of the field thus defined, to be perfectly useless.

Before entering on the subjects in detail, let us inquire whether there be any governing principle, any chief or crowning end, paramount in settling the work of the English class-room. In proposing any one object as a crowning end, we are likely to find ourselves at once embarked in controversy. The sooner, then, we begin, the better.

The end here maintained, as predominant under all circumstances, is, *training in prose composition*; in other words, to improve the pupils to the utmost in expressing themselves well, whether in writing or in speech. If there be any ends besides, either they should be ministerial to the crowning end, or, supposing them to have an independent value, they are to stand on one side when that end is concerned. The cultivation of taste is partly ministerial to composition, and partly a source of enjoyment; but composition first, pleasure afterward. Intellectual discipline is supposed to be an end; still, it should be, above all other things, a discipline in the art of expression in language.

A wide scope is to be allowed to the meaning of composition. It is not confined to mere business composition, nor even to that coupled with the expository art for the purposes of science; it takes in the graces and amenities of style, as an art for refining social intercourse, and for aiding in oratory. But I do not intend it to include the express culture of poetical composition; that being the specialty of a few, not the habitual diction of life. I would not make this exclusion absolute under all circumstances, any more than I would exclude the secondary ends; I mean only that these things *are* secondary, and must wait till full justice is done to what is primary.

It is proverbially difficult to argue an end. Indeed, a final end cannot be argued at all; for argument consists in quoting something more fundamental than the point argued, which the hearers are supposed to admit. If you deliberately and consistently hold that the art of composing well is not the highest end of instruction in English—that, if not subordinate, it is at least only coördinate with other ends, such as taste and intellectual discipline—I can have nothing to say. I might adduce instances

EDUCATION.

On Teaching English.

(By PROFESSOR BAIN, ABERDEEN UNIVERSITY).

I.

Three subjects comprehend every thing that can be brought into a course of instruction in English: (1) Grammar, (2) Composition and Rhetoric, and (3) English Literature. We

of the mention of this as a great and crowning end; and of its being frequently accepted in that character. But to the consistent and conscientious dissenter, there is no basis for reply.

Nevertheless, it will be conceded, that this is *one* end of a leading kind; and, consequently, a course of instruction that does not point to it in a very considerable degree is insufficient as a system of English teaching. Even on this qualified assumption, the following remarks will perhaps not be devoid of force.

First, then, as to ENGLISH GRAMMAR. All will admit that one use of English grammar is correct composition. To say the least, grammar is the means of making us more steady and consistent in our adherence to the conventions and idioms of the language, than the generality of us would be, if we had no grammatical training. It goes a little further, and considers the quality of clearness or perspicuity; but the full attention to that and to other merits comes under the higher departments called composition, rhetoric or the laws of style.

Now, as regards grammar, there are two questions open to debate. The one relates to grammar considered as an intellectual discipline in a wider sense than the discipline in composition—a scientific or logical discipline. The second is, how early should grammar begin to be taught?

The first is the greater question. The assertion is constantly repeated that grammar is a discipline in accurate reasoning, having a distinct value on that score. Indeed, more stress is frequently laid upon this function, than upon the subservience to correctness in the conventions of the language. The supposed intellectual training of grammar is tendered as the most powerful reason for studying Latin, in which hardly any one has ever any occasion to compose, and few even to read. Yet, whether as regards English, or as regards Latin, Greek, or any other language, I hold that the allegation as to mental discipline is subject to very great qualifications.

I can see two ways that the discipline of grammar may be supposed to operate. For one thing, there is, in all composition, a necessity for fulfilling a certain number of conditions, indicated to some extent by general rules, which rules must be understood and correctly applied. You cannot write a good sentence, conveying a meaning, without attending to a variety of considerations; and, therefore, you must exert a certain amount of intelligent effort. In learning a foreign language, by grammar and dictionary, one is still more completely thrown upon the understanding and the applying of rules.

Now, this may be fairly called an intellectual exercise. But is it an exercise peculiar to grammar, or to language, to English, to Latin, or to Greek? Is it not rather the very thing demanded in every art and profession above the commonest manual labor? A clerk in a counting-house has a great many conditions to observe—rules to interpret and comply with. A lawyer writing a business letter, or drawing up a deed, has a still larger number of considerations to bring together with understanding. There is no profession that we can be engaged in, without undergoing such a discipline; and, in most, it is far more stringent than in grammar. This, therefore, is a discipline that will never be wanting to any one educated for a business of the smallest importance. The mistress of a household has abundant scope for the intelligent combining of means to ends, and for the application of rules to cases.

The point to be insisted on, then, is, that no study is justified merely by the circumstance that it contains a field for understanding and applying rules. We can cultivate this avocation in so many ways, that we are never driven to seek it on grounds in other respects barren. It adds nothing to the recommendation of grammatical studies; if these have no specific utility in regard to composition by pen or by mouth, they have no utility at all. As to the habit of overcoming difficulties, we need never make difficulties on purpose; we can always find some work fruitful in itself, as well as calculated to inure us to patient and intelligent combinations.

Besides, it does not follow that, because we have gone through

a certain training in one line, we shall transfer that training to other and different things. We may, or we may not. The only sure discipline is a discipline in the very subject on which we are to be occupied. A clerk is trained, not by grammar, but by accounts. A medical man is trained not by the Greek verb, but at the hospital.

The other way that grammatical study may be supposed to operate as a mental discipline, apart from its immediate purpose, is in exemplifying the processes of scientific reasoning—such as classifying, defining, generalizing, induction, and so on. Now, this granted, the foregoing remarks are still to the point; there are so many fruitful studies, so many useful branches of knowledge, more or less perfectly cast in the scientific mould, that we can always couple utility and discipline in the same exercise. We need never seek for examples of scientific method in an intrinsically unprofitable region; the valuable forms of science may be found in conjunction with valuable matter. There exist fruitful studies of every grade of difficulty for exemplifying all the reasoning processes; it is enough to instance mathematics, the wide compass of natural history, and the versatile studies comprised under natural philosophy.

But I do not concur in the assertion that grammar is a good model of scientific method. I find that its definitions have long been bad, and are only now in the course of being slowly amended; its inductions are still defective; the rules are often wanting both in accuracy and in perspicuity, while the qualifications and exceptions are insufficiently worked out. Even in that future day, when the subject shall attain its perfection, as to scientific form, it will be very unsuitable for initiating beginners in scientific method. Any science that thoroughly encompasses the vast structure of a cultivated language, accommodating itself to all the caprices of usage, as well as bodying forth the deep and subtle relationships, will not be an elementary science. If grammar is easy and elementary now, the result is gained by superficiality, by evading all serious difficulties, by leaving unexplained the very things most in want of explanation.

The truth is, that a certain amount of this ground is covered by the rules of grammar, and all the rest is left to be gathered in detail, like our English spelling. Between the two, a pupil may be tolerably educated in the languages, but he will not have seen any thing that can be called good science. Nor could the very best teacher accommodate the subject to scientific or logical discipline for beginners. The utmost that can be gained by grammatical training—the *forms* of classifying, defining, induction, and deduction—will not start forth from the *matter* of language in that clearness of manifestation that would make them easy to apply to other matter—to law, to medicine, or to theology. (1)

(1) Extraordinary eulogiums are occasionally passed on the power of grammar-rules to impress scientific or logical method. The pupil, it is said, has a rule set before him, with a certain number of examples, and he has to stretch the application to new cases, which is the substance of all scientific deduction. Thus, take the rule, or rules, for the formation of the plural. There is (1) the general rule (adding *s* to the singular); then (2) certain exceptional rules; and, finally, (3) a number of irregularities to be learned piecemeal. This instance typifies a large part of grammar. But how many pupils, we may ask, conceive this process in its scientific character or method? Most teachers would probably answer, none at all. The comprehending of such a scheme belongs essentially to the post-grammatical age, and is not aided by the examples furnished in grammar. The ordinary pupil does not even remember the rules themselves in after-life; our knowledge of the greater part of the grammatical proprieties is against our individual instances. We write "babies," not so much from the instigation of the rule learned at school, as from having repeatedly seen the form in the word itself, and in the close analogies, "ladies," etc.

A logical discipline, to be successful, must be worked like every other discipline; it must begin with simple forms, and proceed by degrees to the complex. Easy classifications and definitions, in the first instance, succeeded by more and more difficult; and inductions, on the same plan; deductions, on the same plan; deductions, first, for perfect rules, and, next, for rules liable to qualifying rules and exceptions—would be a scheme of logical discipline, such as a young pupil might follow. But

The conclusion, therefore, on the whole is, that grammar has no secondary end that needs to be taken into account in estimating its educational value. In so far as it does not serve the primary end of aiding us in the use of our own language, it has no reason of existence.

There is a second question connected with grammar, viz., at what age should it be entered upon? The answer is, as soon as a pupil can be made to comprehend the structure and parts of a sentence. When you can explain with effect that every communication by speech takes the form of a sentence, that a sentence is made up of a subject and a predicate, that the predicate may be completed by an object, and that both subject and object may be qualified by secondary words—when all this can be understood, grammar can be understood. You have, then, and not till then, a basis for the parts of speech, and all the rest will easily follow. But, to define a noun without reference to the sentence, is futile and misleading; and, if grammar had any efficacy in suggesting scientific method, such a definition would only pervert and corrupt the reasoning faculties. To call a noun "the name of a person, place, or thing"—John, London, book—is not even a decent approximation; it is not a respectable compromise. If all nouns were names of objects in the concrete—as man, skylark, town, table—the definition, although still taking the wrong aspect, would not be so far from including the things. But as, in addition to the concretes of the outer world, we have the whole vocabulary of *mind*—love, passion, conscience, thought, etc.—which no pupil could recognize as persons, or as places, or as things; also the vocabulary of *actions*, as expressed by nouns—work, cry, flow, drive, and so on; and, farther, the *abstractions*—as time, space, goodness, beauty—you must pass in silence probably the largest half of the noun vocabulary, or else drop the definition, or, finally, slip into the real definition, that is, the junction of the noun as subject of the sentence.

A final word as to grammar: If the sole end of the grammatical system is correctness in composition, there is yet much to be done in accommodating our grammars to the end. An extensive technical machinery has been contrived, and we are still adding to it; but there is no corresponding zeal in directing it to guide composition. Of recent additions, I may mention the analysis of the sentence, which is the indispensable complement of the whole grammatical structure-system, as giving the only basis of the parts of speech. It has a further utility in calling attention to the structure of sentences. But why should attention be called to this matter? Mainly, as I conceive, to help us to see the difference between a good sentence and a bad. It may serve the additional end of enlarging our stock of sentence forms, so as to increase our compass of effective expression. Yet to neither purpose has analysis been, as yet, studiously directed. Very admirable manuals of analysis are now to be had—indeed, the formulæ are brought almost to an ideal perfection. Yet we seldom employ the new nomenclature to say, "This form of sentence is good, that is bad; this is adapted for one use, that for another; this is a form that might be beneficially extended," and so on. Now, until we proceed to this further stage, the machinery is otiose (excepting always the bearing on the parts of speech). It has capabilities not turned to account. Mr. Dalgleish has continued a valuable supplement to analysis, in the form of synthesis, which still further seems to impress the mind with the part and organization of sentences. Yet even this does not bring us up to the main chance—the discrimination of good and evil in sentence structure.

now, in teaching a subject having other ends in view, we cannot obtain the indispensable gradation from the simple to the complex; we are just as likely to have, at the very outset, the most complicated instances of logical method. Thus, the grammarian, at the very outset, has to settle the parts of speech; of them he must commence with the definition and classification of nouns; whereby he is already plunged into complex defining and cross classifications, which are by far too subtle and difficult to be presented as the first introduction to logic. They may be intelligible as grammar, but certainly not beyond.

Another recent addition to grammar is the subject of derivation in its two branches—the sources of the vocabulary, and the composition of words. The sources of the vocabulary must be considered as curious rather than as practically useful; for although susceptible of being rendered useful as well as curious, much of that remains to be done. Generally speaking, the history of a word does not add to our knowledge of its meaning; our only safe guide is present use. Much information as to national history and manners may be gained from noting the changes in the meaning of words; still, the English master has a more urgent vocation than being the historian of national customs. Moreover, that subject does not seem to need a special tutor, or the intervention of the living voice. Any branch of knowledge that happens to be perfectly easy to an ordinary mind, and at the same time possesses a self-sustaining interest or charm, may very well dispense with the schoolmaster. This remark will be again called for, ere we are done; and we might extend it beyond our present object. It applies most emphatically, for example, to the whole department of history, which might be learned, one would suppose, from such writers as Arnold, Macaulay, Milman, Grote, Carlyle, and Kinglake, by every person of fair attainments and mature age, without either professor or coach.

In attending to the sources of the vocabulary, there is one incidental advantage—to impress the memory with the vocables themselves, which is a very large part of our cultivation in language. The effect, however, that any teaching can have upon this immense acquisition is surprisingly small. Our command of vocables is an attainment spreading itself over the whole life; the English teacher has but a moderate share in it, as could be proved by an arithmetical computation. We imbibe vocables most readily when we are intensely interested with any thing that we hear or read; and the teacher has occasional opportunities of operating in this way, as well as by mere dunning and repetition. Yet, unless the course of English were extended much beyond its present limits, the whole efficacy of teaching in this matter is too confined to be taken into account in the education of a cultivated person.

A further subject of no small interest connected with the sources of words is general philology. In learning a foreign language, this may be an aid to the memory of vocables; in learning our own language, the utility in this way is but slender. I do not think that the English teacher has time to spare for this department; its bearing on its chief end is too remote. What has been alone remarked as to the immediate sources of words, and the small connection between these and present use, applies with far greater force to the first origin of speech. That subject is eminently calculated to stimulate the curiosity of the mature man; and a teacher may occasionally advert to it, just as a lecturer in physiology may make a passing allusion to the Darwinian doctrine of development.

The other part of derivation, now worked up in our grammars to a high pitch of completeness, is the composition of words—the addition of endings and of prefixes to the primary roots, whereby there are framed new vocables with various shades of meaning. In favor of this study can be pleaded a high practical utility—the avoiding of a class of serious errors. No fault is commoner than the misuse of suffixes. If consistency in this point had been studied, we should not have the word "sensible" employed to signify "possessing good sense;" the termination has a passive meaning, and the word should mean only what can be felt—as, a sensible taste, an insensible pressure. Now, by arraying under each suffix and each prefix a series of characteristic examples, we enable the pupils to make their induction as to the prevailing signification, and so to check themselves in deviating from the consistency of the language in a matter of some importance.

Teach Children to Draw.

Nearly all children have a propensity to make figures on their slates or on pieces of paper. This practice should be encouraged. It should not be allowed to encroach upon time devoted to other lessons, but it may well employ their leisure.

Their first pictures will doubtless be quite rude. Their houses will be lop-sided, their trees stiff and dead, their men and women all awry, their animals mere skeletons perched on sticks. Smile at these beginnings, if you will, but don't discourage them. One or more of these children may develop into artists of consummate abilities; and if not, they will become men and women of nice perceptions and cultivated taste.

This fondness of drawing should be controlled and guided by a teacher. Instruct them how to make straight lines; then to connect them into squares, triangles, parallelograms; then to make curved lines; then to represent light and shade; then proceed to fences, trees, rocks, flowers, men, and animals. A majority of your pupils will not care to go beyond the rudiments of "the fine arts," though a few will be likely to go further than parent or schoolmaster can lead them. They will need little further encouragement—nay, you cannot hold them back if you try. Watch their course, and ere long you will hear of the exploits of a Cole, a Church, a Kensett, a Huntington.

Yet these are the exceptions, and it is not chiefly for their sakes that we say, teach children to draw. It is for the majority. Instruct them to draw, in order to cultivate their powers of observation, their sense of proportion, harmony, fitness, and beauty. The mechanic and farmer, and, indeed, every man of business has frequent occasion to make drawings of objects, and it is of great value to him to be able to do so without employing a professed draughtsman. Every body travels now-a-days, and it is no light and worthless accomplishment which enables one to sketch the scenery through which he is passing. By all means, let the children draw, likewise teach them how to do it.—*Hearth and Home.*

Illinois Industrial University.

This institution is one of those organized under the Congressional grant of lands for education in agriculture, mechanics, etc. It is now just entering upon its second year of work, and has in attendance one hundred and twenty-two young men, forty-six of whom are in the agricultural course, thirty-six in the course in mechanical engineering, forty in the military, civil engineering, and general courses. The students dress in uniform, and all participate in the military dress three times each week. The labor of the students is not compulsory, but a large number have voluntarily joined the labor groups, which work two hours each day. One group works on the experimental farm, another on the gardens, a third on the ornamental grounds and in the propagating-house, and a fourth in the shops. The maximum wages paid are twelve and a half cents an hour, and many of the students are nearly or quite paying their expenses by this and some over-work. The University has over a thousand acres of excellent land. Four hundred acres are used as a grass and stock farm, one hundred and sixty acres as an experimental farm and orchard, about forty acres as garden, nursery, and arboretum, and about fifteen as an ornamental and parade ground. An apple orchard of over three thousand trees, of about fifteen hundred varieties, was planted last spring, and is now in a very thriving condition, less than one half of one per cent, having died, and most of the trees showing an unusual growth.

An appropriation was made to the University by the last Legislature of \$60,000—\$30,000 for developing and stocking the farms, \$20,000 for the horticultural department, \$5,000 for furnishing the chemical laboratory, and \$5,000 for library and apparatus. Considerable collections of books, cabinets, and apparatus have already been made, and the President made large purchases this summer in Europe.

There were tested upon the farms and gardens this season ten varieties of corn, eleven varieties of potatoes, nine varieties of wheat, and several varieties each of oats, barley, peas, beans, and other vegetables. An extensive system of underdraining has been undertaken, and the work is already begun.

The Faculty of the University embraces at present, exclusive of superintendents, eleven men, and others are under appointment. The tuition is free in all the practical departments. The growth of the institution has been steady from the outset, the number of students increasing each term, and its friends are intertaining strong hopes of its permanent success in its peculiar fields. There are many interesting features in its constitution which we may some day detail.—*Id.*

Stick to One Thing.

"Unstable as water, thou shalt not excel," is the language of the Good Book. Whoever expects to succeed in any undertaking, must enter into it with a hearty and earnest will to do his best. When a trade or profession is chosen, obstacles, be they large or small, must not be allowed to stand in the way of mastering that trade or profession. However much we may deprecate the old time custom of indenturing apprentices, the system in its practical results operated almost always for the lasting good of the apprentice. Generally, it insured to him a good trade and a wholesome discipline that fitted him for success in business. At the present time, very many young men undertake to acquire a trade, and after a brief trial abandon it, because there are unpleasant duties to be performed, and obstacles to be overcome. They consider themselves accountable to no one, and go and come at the bidding of caprice, or an unsettled, uneasy mind. The result of this is to send out into the world young men who have not half learned their trades, of unstable character, who drift from post to pillar, and who succeed in nothing but strewing along the highways of life melancholy wrecks of men. We would earnestly entreat every young man, after he has chosen his vocation, to stick to it; don't leave it because hard blows are to be struck or disagreeable work performed. The men who have worked their way up to wealth and usefulness do not belong to the shiftless and unstable class, but may be reckoned among those who took off their coats, rolled up their sleeves, conquered their prejudices against labor, and manfully bore the heat and burden of the day. Whether upon the old worn-out farm, where our fathers toiled, diligently striving to bring back the soil to productiveness, in the machine-shop or factory, or the thousand other business places that invite honest toil and skill, let the motto ever be, perseverance and industry. The baby training of the nursery was good in its place, but it won't answer all the demands of an active life. This is not a baby world. We must expect to be jostled and knocked about in the stern conflict, and get run over, if we are not on the lookout and prepared to meet the duties of life with a purpose not to shirk them, but to fulfil them. A young man with a good trade or honorable profession, as he goes forth into the world with his mind made up to stick to his trade or profession, is not obliged to ask for many favors. He will hew his way to success, while the unstable and shiftless will grow tired, despair and fail.—*Catholic Standard.*

Teaching Spelling.

The great object of learning to spell is to be able to spell correctly in writing. Occasionally a person is called upon to spell a word for another, and among the thousands who go to school, here and there one, in after-years, engages in teaching—spelling, perhaps, as well as other things. But the great mass learn to spell with a view of writing orthographically. To make instruction in orthography, therefore, a practical thing, spelling should undoubtedly be taught through the point of the pen or pencil. This, we believe, has now become a very general mode with small classes. With classes numbering from four to twelve

it does very well to dictate to them short sentences for five or ten minutes, according to the degree of their advancement, requiring them to capitalize, punctuate, put in hyphens, apostrophes, etc., as well as "spell" their words correctly. Then let them exchange slates or papers, and correct each other's work, without any communication between them. This will consume about ten minutes more. Let the teacher then examine the entire work, if not in the recitation-room, after the class is dismissed,—the writer as well as the corrector of each having signed his name thereto, before the exercises are delivered over to the teacher for examination. The one who makes the most corrections should be credited accordingly—allowing always one correction to counterbalance one error, if the scholar be so unfortunate as to have made any. Let every error (whether in spelling, or in punctuation, or in the overlooking of an error, or in any other respect) made in attempting to correct another's work, be accounted the same as a mistake in writing the exercise. A daily record should be kept of all this. At first the mistakes will be so numerous that but little can be given out and attended to. But in a few weeks, if this system is faithfully persevered in, it will be surprising to see what progress is made, and how the errors decrease in number.

One cannot, however, always have small classes. And even if he can, the following method affords a pleasing variety. Say a class of twenty-five has just been organized. The lesson has been assigned, and is supposed to have been studied. The class assemble, and are arranged alphabetically, or by lot, or according to age, as may seem best: if according to age, the youngest at the head, the next in years next, and so on to the oldest, who takes the foot. The lesson begins. It may be in single words, or in sentences. Suppose the latter. The sentences should be short, each complete in itself. The spelling is to be done orally. The sentence is given out distinctly, and the whole class is expected to attend, as it is not to be given out again, even though it is missed. We will suppose numbers 1, 2, 3, 4, and 5 successively spell their sentences correctly, capitalizing, punctuating, etc., as necessary. Number 6 misses. The teacher is to take no notice of it, otherwise than quietly and in a manner unobserved by the class to put a dot with a lead pencil opposite the name of the one who has thus missed, and in the proper column for the day, in his record-book, which should be open before him all the time as well as the book from which he dictates. Instead of giving the misspelt sentence to the next one to spell, give out another sentence, just as if no mistake had been made. This, the class should understand beforehand, is to be the case. The first one who observes the mistake, instead of spelling the sentence given to him when his turn comes, pronounces the sentence that was missed, then spells it. If correct, he passes up and takes his place above the one who missed it. If not, the next one may try it; if he misses it, the next; and so on until the work is correctly done. If it should pass the foot uncorrected, and number 1 spells it right, he "goes up" and takes his place above the one that first made the mistake. That is, if number 6 made the mistake, and it passed around uncorrected to number 1, number 1, who corrects it, takes his place just above number 6. He has virtually passed from one below the foot up to within four of the head again. For passing the head, he is credited one. Should he pass the head again before the recitation is over, he is credited with two "heads." Thus several scholars may pass the head during one recitation; and each therefore is credited accordingly. At the close of the exercise the class are numbered, their numbers recorded, and when they next come together they take their places in the order in which they stand at the close of to-day's recitation. If any are absent for a day or more, when they appear in the class again they take their place at the foot, relatively to each other in the order in which they were when they were present last, which is readily decided by a reference to the record-book. To-morrow's recitation, if possible, should begin at that point in the class at which to-day's left off. In this way, all are dealt by equally, and the one who passes the head the most times during the quarter or the session, if not positively

the best speller, is the most attentive and most deserving.—At the end of the quarter or the session, or oftener if desirable, the record, so far as the number of heads gained is concerned, may be read off; and once or twice a year it does very well to make something of a present to the best one or two in the class. Grown people work better, as a general thing, if they expect to be well rewarded for their labor; and children do better too, if something tangible in the form of a prize is held out for their attainment.

It will be found that the giving out of a word or sentence but once is an excellent exercise for gaining the attention as well as strengthening the memory of the pupils. Occasionally I have found it beneficial to interrupt the spelling exercise by asking reasons for certain things; as why *America*, in a sentence like "Columbus discovered America," should begin with a capital; why *web-footed* should be spelt with a hyphen; or *can't*, or *'tis*, or *John's*, with an apostrophe; why the *i* should follow, and not precede the *s* in *business*; why *queen* should begin with a capital in such a connection as "We were introduced to Queen Victoria," and not in such as "We were introduced to the queen;" etc., etc. If *fuchsia*, or *sibyl*, or some similar word occurs, explain its etymology, especially if the class is composed of more advanced pupils. Questions and explanations like these tend to fix the orthography of certain words, or of words under certain conditions, indelibly upon the mind, if they do not really for the first time call the scholar's attention to it.

When any of the class display inattention or a lack of proper study, and in consequence make a certain number of mistakes during the recitation, say three, or even more according to circumstances, an excellent penalty is to require them to copy *literatim et punctuatim* a page of foolscap at the close of the day from their Reader—*American Educational Monthly*.

Rugby School.

The Trustees of this School were occupied on the 20th ult., in the election of a successor to Dr. Temple as Head-Master. There were nine candidates, but the issue lay between Mr. Theodore Walrond, M. A., of Baliol College, Oxford, and the Revd. Henry Hayman, B. D., of St. John's College, Oxford, Head-Master of St. Andrew's College, Bradfield. The latter was chosen. Mr. Hayman was educated at Merchant Tailors' School, where he obtained the chief Greek verse prize in 1840, and chief Latin prose prize in 1841. In this year he was elected Probationary Fellow of St. John's College, Oxford, of which society he afterwards became full fellow. In 1845, he obtained a second class in classics and a second in mathematics under the old system. In 1854 he was appointed assistant preacher at the Temple Church. In 1855 he became Head-Master of Queen Elizabeth's Free Grammar School in St. Olave's, Southwark; in 1859 he was appointed Head-master of Cheltenham Grammar School; and in 1868 Head-Master of St. Andrew's College, Bradfield. He is the author of an edition of Homer's "Odyssey" (of which the first volume only has appeared), and of "Passages in Greek and Latin Composition."

The following is an abstract of the honours gained at the Universities by Rugbeians during the twelve years of Dr. Temple's Head-Mastership:—Fellowships—Oxford, 14; Cambridge, 8. Scholars, Classical or Mathematical—Oxford, 38; Cambridge, 39. Exhibitioners—Oxford, 14; Cambridge, 28. Scholars, Natural Science—Oxford, 4. University Scholars, Classics—Oxford, 1; Cambridge, 3. Ditto, Mathematics—Oxford, 2. Ditto, Science, Law, or Modern Languages—Oxford, 4. University Prizemen, Oxford, 7; Cambridge, 8. Chancellor's Medallists—Cambridge, 5. Ditto, for Law—Cambridge, 1. Wranglers—Cambridge, 12. First-Class, Classics—Cambridge, 10. First-Class Final Schools, Classics—Oxford, 14. Ditto, Mathematics—Oxford, 4. First-Class Law and Modern History—Oxford, 6. Ditto, Science—Oxford, 2. Ditto, Moderations, Classics—Oxford, 28. Ditto, Mathematics—Oxford, 6. Indian Civil

Service, 10. Total—Oxford, 144; Cambridge, 114; India, 10 grand total, 268.—*Rugby Meteor.*

The assistant masters of Rugby School have commissioned Mr. Woolner to execute a bust of Dr. Temple, to be placed in the Arnold Library. The boys intend presenting him with a testimonial. Old Rugbeians have also signified their desire to testify their personal regard for Dr. Temple. He will also receive a congratulatory address from the friendly societies of the neighbourhood at a public dinner on the 1st, instant.

LITERATURE.

POETRY

CHRISTMAS.

A happy Christmas to every one !
Though from the festal board some guests are gone
And yet not gone, for to each vacant place
There cometh one who hath an angel's face !
And there is left a store of life and love—
Links which unite us here to those above.

A happy Christmas tide ; and let the poor
Turn with a thankful heart from every door
If in our heart there's strife with kith or friend
For Jesus' sake let the contention end—
So ere the year is hidden with its pall
Thank we the Lord to be at peace with all.

—*Cornhill Magazine.*

HYMN TO THE NATIVITY.

GLOOMY night embrac'd the place
Where the noble Infant lay ;
The Babe look'd up and show'd His face—
In spite of darkness it was day.

We saw Thee in thy balmy nest
Bright dawn of our eternal day !
We saw Thine eyes break from the East,
And chase the trembling shades away.
We saw Thee, and we bless'd the sight,
We saw Thee by thine own sweet light.

She sings Thy tears asleep, and dips
Her kisses in Thy weeping eye ;
She spreads the red leaves of Thy lips,
That in their buds yet blushing lie.

Yet when young April's husband-show'rs
Shall bless the faithful Maia's bed,
We'll bring the first-born of her flow'rs
To kiss Thy feet and crown Thy head :
To Thee, dread Lamb ! whose love must keep
The shepherds, while they feed their sheep.

RICHARD CRASHAW.

The Philology of the English Language.

In an interesting review of Cleasby's Icelandic Dictionary, the *Times* remarks that if anything is certain in English philology it is this—that numberless forms and words and phrases come into our modern English from a Norse, and not from any Anglo-Saxon, influence. How in the name of Saints Priscian and Scholastica could it be otherwise ? Did the Danes, who conquered and owned half of Britain from the Firth of Forth into the heart of Mercia, who left their mark behind them in *Rugby*, and who had settlements all round the coast—at *Tenby*, for instance—strangely, enough, Cleasby in *Yorkshire*, owes its name to Scandinavian settlers—did the Danes, we say, forget their own tongue and learn that of the conquered race ? We know that they did not ; we know, on the contrary, that many forms of the

verb substantive, *are*, for instance, are Norse, and not Saxon terms ; that *egg* is not Saxon, but Norse ; that the termination *by* is no Saxon ending—*Whitby*, for instance, changed its name from *Streoneshalch*, and *Derby* did the same ; that the *or* in *Upnor*, and *Bognor*, and *Walsingor*, near Portsmouth, and the *er* in *Walmer* are Norse terminations, meaning a raised beach of shingle ; that “ *ait* ” is Norse with the final *t* which marks the neuter gender of the substantive added. It is needless to multiply examples. The fact is known to every true philologist, and this dictionary will still further establish it. What is *goupen* in Scotch—that strange word for the hollow of the hand, or the hollow of both palms turned outward—but the Icelandic *gaupn*, which means the same thing, and is pronounced in the same way, and what is *glair* but the Icelandic *gler* ? What are all the adverbs in *a-* but remains of the Scandinavian *â*, a form which has been falsely ascribed to the Anglo-Saxon *on* ? Is it not more natural to suppose that such forms as *a-thwart*, *a-broad*, *a-long*, *a-ground* should be Scandinavian remains, as their Icelandic representatives still exist, than that they should be derived from Anglo-Saxon equivalents which have nothing to show for themselves either in the old or the modern language ? The fact is that even before the Norman conquest the Anglo-Saxon had yielded to the Scandinavian infusion in the north of England. As the races were governed by their own laws, so they had their own forms of speech, understanding one another, perhaps, as Swede and Dane partially understand one another at the present day, but still distinct and different. After the Conquest there was a general scramble of race and dialect, and in many cases, as there was no longer any court and official West Saxon dialect to coerce it, the Scandinavian forms and words got the better of pure Anglo-Saxon not only in the north, but all over England. It is because there is so large an infusion of Scandinavian into modern English that the appearance of this dictionary is so valuable to an English philologist.

Uncertain Distribution of Honours.

We have seen how extremely unequal and uncertain is the commemoration, or absence of commemoration, of our famous men. It is this which renders the interment or notice within our walls a dubious honour, and makes the Abbey, after all, but an imperfect monument of greatness. But it is this also which gives to it that perfectly natural character of which any artificial collection is entirely destitute. In the *Valhalla* of Bavaria every niche is carefully portioned out ; and if a single bust is wanting from the catalogue of German worthies, its absence becomes the subject of a literary conversation, and the vacant space is at last filled. Not so in the Abbey ; there, as in English institutions generally, no fixed rule has been followed. Graves have been opened or closed, monuments erected, from the most various feelings of the time. It is the general wave only that has borne in the chief celebrities. Viewed in this way, the absences of which we speak have a touching significance of their own. They are eloquent of the force of domestic and local affection over the desire for metropolitan or cosmopolitan distinction—eloquent of the force of the political and ecclesiastical prejudices at the moment—eloquent also of the strange caprices of the English public. Why are men so famous as *Burke* and *Peel* amongst statesmen, as *Pope* and *Gray*, *Wordsworth* and *Southey* amongst poets, not in the *Statesmen's* or the *Poets' Corner* ? Because the patriarchal feeling in each of these men, so different each from the other, yet alike in this, drew them from the neighbourhood of the great, with whom they consorted in the tumult of life, to the graves of father and mother, or beloved child, far away to the country churchyards where they severally repose—in each, perhaps, not unmingled with a longing desire for a simple resting place which is expressed in *Pope's* epitaph on himself at *Twickenham*. Why is it that *Montague*, *Earl of Sandwich*, *Monk*, *Duke of Albemarle*, restorers of the monarchy, *Archbishop Usher*, the glory of the *Irish Church*, *Clarendon*, the historian of the *Great Rebellion*, rest here with no contemporary monument, three of them with none at all ? That blank void tells again in the bare stones the often-repeated story of the ingratitude of *Charles II.* towards those to whom he owed so much and gave so little. Why is it that poets like *Coleridge*, *Scott*, and *Burns*, astronomers like *Herschel*, discoverers like *Harvey* and *Bell*, have no memorial ? Because, for the moment, the fashion of public interment had drifted away from the Abbey, or lost heed of departing greatness in other absorbing interests, or ceased to regard proportion in the distribution of sepulchral honours. It is well that this should be so. *Westminster Abbey* is, as *Dr. Johnson* well said, the natural resting-place of those great men who have no bond elsewhere. Its metropolitan position has, in this respect, powerfully contributed to its fame. But even *London* is, or ought to be, insignificant compared with *England*. Even *Westminster*

Abbey must at times yield to the more venerable, more enduring claims of home and of race. Those quiet graves far away are the Poets' corners of a yet vaster temple; or may we take it yet another way, and say that Stratford-on-Avon and Dryburg, Stoke Pogis and Grasmere are chapels of ease united by invisible cloisters with Westminster Abbey itself?—*Dean Stanley's Memorials of Westminster Abbey.*

Surnames.

—The first movement towards distinctive family titles seems, indeed, to have been made in a different direction, and to have consisted, not in the adoption of a second name at all, but in the modification of the personal or fore-name. A prefix was selected, which was made common to the appellations of all the members of a family; and with this prefix the different and distinguishing terminations were compounded. Æthel, Æd-, and Ælf, were prefixes of this description; and these, with many other similar ones, were employed in a great variety of combinations. This system, however, was but rarely employed, and was not even perfectly carried out by those who in a measure adopted it. The year 1000 has been mentioned as the probable period at which surnames—in the present acceptance of the word—were first regularly employed. To the Normans belongs the credit of having instituted them; and they may be said to have been formally introduced into this country at the Conquest. It appears, however, on good evidence that they were not wholly unknown here prior to that event. The feudal system naturally tended to create surnames out of landed possessions, and at the same time to limit their use to the upper classes. For a long time, therefore, they were the privileged titles of the few, and not the means of family distinction employed by the people in general. It may be said that five centuries elapsed from the date of their importation to that of their general adoption throughout the country—during which interval they were but slowly spreading downwards through society. It is difficult now to follow closely the gradual process by which the ancient forms of designation became as it were crystallized into the consistency of permanent and hereditary surnames; but it is certain that a large proportion of our family titles of to day are substantially identical with the mere descriptive terms used to distinguish individuals, from the early years of Anglo-Saxon history downwards. Thus it has happened that names representing mere personal caprice and popular fancy have taken their places amongst those originated in more regular ways, and that the patronymics, the titles derived from lands, from situation of residences, from trades and qualities have been handed down to us amidst a heterogeneous multitude of other appellations, which, as we have seen, are surprising from their variety, and often perplexing from their extreme oddness. The process by which the ancient personal names of pre-Norman times have been perpetuated in the form of surnames demands a moment's separate consideration. It was probably a not uncommon practice, among such of the Anglo-Saxon race as were enabled by their energy of character to obtain their deliverance from serfdom under Norman rule, and to regain something of the social position which they had lost at the Conquest, to recur, in choosing their family name, to the honoured title of some ancestor of their own. Had it not been for this loving adoption of ancestral names, we should probably find amongst those of our family denominations which follow the patronymic form scarcely anything of a Saxon character; for by the time that surnames were beginning to come into general use the old Saxon baptismal appellations had mostly given way to the Johns, Jameses, Thomases, Williams, and Roberts of Norman introduction.—*Cornhill Magazine.*

Origin of Great Men.

St. Andrew, Apostle, was the son of a fisherman. St. John, was also the son of a fisherman. Pope Sixtus V was the son of a swineherd; he was also one. Aristotle, of a doctor. Boccaccio, of a merchant. Columbus, of a wool-comber. John Basth, of a fisherman. Diderot, of a cutler. Cook, of a servant. Hampden, of a carpenter. Talma, of a dentist. Gesner, of a book-seller. Salvador Rosa, of a surveyor. Euripedes, of a fruit-woman. Virgil, of a baker. Horace, of a denizen. Voiture, of a tax collector. Lamothe, of a hatter. Fletcher, of a Chandler. Masillon, of a turner. Tamerlane, of a Shepherd. Quinault, of a baker. Rollin, of a cutler. Molière, of an upholsterer. J. J. Rousseau, of a watchmaker. Sir Samuel Borrich, of a silversmith. Ben Johnson, of a mason. Shakespeare, of a butcher. Sir Thomas Lawrence, of a Custom House officer. Collins, of a hatter. Gray, of

a Notary. Beattie, of a labourer. Sir Edward Sugden, of a barber. Thomas Moore, of a swordmaker. Rembrandt, of a miller. Benjamin Franklin, of a chandler. Cardinal Woolsey, of a butcher. Napoleon of a farmer.

Extinct Families.

Robert Stephenson leaves no family behind him. His wife died many years ago, and he remained a widower, so that the direct line from George Stephenson, the eminent English engineer, has died out. James Watt, the noted English inventor, left no descendants. It appears that the men noted for mechanical genius, like many of those famous in literature, science and government in Great Britain, leave no children to perpetuate their names.

Shakespeare, Milton, Bacon, Newton, Harvey, Pope, Mansfield, Pitt, Fox, Gray, Cowper, Collins, Thompson, Goldsmith, Congreve, Hume, Bishop, Butler, Locke, Hobbs, Adam Smith, Bentham, Davy, Sir Joshua Reynolds, Sir Thomas Lawrence, Byron, Lord Clyde, and others well known to fame in British annals, have no lineal representative now living.

SCIENCE.

The Recent Eclipse of the Sun.

If astronomers have during the last year blamed the weather for too often hiding the sun from them as effectually as if he were eclipsed, they ought to thank the moon for performing the operation in her own manner apparently much more frequently than she used to do, and with the most brilliant results. Formerly, indeed, astronomers were very thankful for a good total eclipse of the sun within the civilized area every ten years or so, and the years 1842, 1851, 1860, and 1868 are all of them marked with a red letter in scientific history; but, besides the now famous eclipse of 1868, we have been favoured with one in 1869, and we are informed by Mr. Hind that we are to have another in 1870. It is not often that celestial phenomena present themselves so entirely at the precise moment at which they are wanted, and surely, if a good large comet would also obligingly present himself, the cup of astronomical bliss would be full to overflowing.

Our present object is to chronicle some of the scientific work done at this year's eclipse, which was observed in America; but for its right understanding it is essential that we should first say a few words on eclipse teachings generally, and give an idea of the state of our knowledge on the subject prior to, and of the questions which had to be put to the sun during, the eclipse to which we refer. To begin at the beginning; time out of mind, when the sun has been totally eclipsed, a strange halo of light has been seen surrounding the dark body of the moon, and to this halo, or corona, were added in 1706 other strange things since called, variously, red flames, prominences, or protuberances. With regard to these things seen in eclipses, but not at other times, the first question was, were they solar, lunar, or terrestrial? In the case of the red flames, the eclipse of 1842 failed to settle the question, and it was not till 1860, when Mr. De la Rue, one of the members of the Government Eclipse Expedition sent out to Spain in that year, photographed them, and showed how the dark moon passed over them, that they were acknowledged on all hands to be real solar appendages. In the case of the corona, it had been observed many times that its light was polarized; this was imagined to prove that this also was solar and at last it settled down into a solar atmosphere. So that in the year 1860 we may say that the current notion was that the corona was solar, and was in fact the solar atmosphere; and that the red flames were solar, and existed in that atmosphere. Then came the next question, What were these red flames, assuming them to be solar?

Already, in 1866, we find Mr. Lockyer imagining them to be masses of gas, and feeling for them with a small spectroscope, but the instrument was too small. The settlement of the problem was in consequence delayed, and it was not until the eclipse of 1868 that their nature was demonstrated. They were really masses of gas; and this gas was shown both by Mr. Janssen and Mr. Lockyer, independently, to be hydrogen, and by a method which makes us very much more independent of eclipses than we were formerly. So that, after the eclipse of 1868, the notion was that the red flames were masses of hydrogen floating in a solar atmosphere represented by the corona. One of the first results of Mr. Lockyer's method of observing the sun without an eclipse, by which method the red flames

can be seen every day, indicated that it was extremely improbable that the solar atmosphere was as extensive as some drawings of the corona would appear to require; and at a meeting of the Royal Astronomical Society the extreme variation in the drawings of the corona, as seen by observers of the same eclipse in different places, was pointed out in support of the spectroscopic evidence, which goes to show that in the *chromosphere*—the outer solar envelope of which the red flames are the higher waves—the pressure is extremely small, though the temperature is still comparatively high. The importance of this evidence will be obvious in a moment when we consider that an excessive outer atmosphere would require a greater pressure at its apparent base, and that a high temperature would render the outer atmosphere itself incandescent, and it would probably be as visible spectroscopically, as the red flames themselves.

Here, then, was one point at all events for the next eclipse. Another, scarcely of less interest and importance, was to compare the evidence of the spectroscope with that of the eye; to translate, as it were, the language of the spectroscope into the vulgar tongue, and thus utilize the former eye-records of the eclipses which happened in the pre-spectroscopic age.

We now come to the American eclipse which happened on the 7th of last August. It swept over the North American Continent diagonally, from Behring's Straits to a point in lat. 34 degrees N. on the Washington Meridian. It is stated that, although it traversed a central belt of well populated territory, there seems to have been scarcely a town of any considerable magnitude along the entire line which was not garrisoned by observers having some special astronomical problem in view. The Government, especially the Navy Department, and the various railway companies threw themselves into the inquiry with the utmost liberality, and the result is an enormous gain to science, of which America may well be proud; certainly an eclipse has never been so magnificently and extensively observed before. Of course, sufficient time has not yet elapsed to enable us to receive the results obtained by all the observing parties. In fact, the only report *in extenso* received up to the present time, so far as our knowledge extends, is that of Professor Morton's party, which is so full of interest that it deserves to be dwelt upon at some length. The spectroscopic results demand our first attention, as we have especially led up to them in what has gone before.

Premising that the conclusion is not endorsed by other observers, if we are to believe the newspaper accounts, we may commence by stating that the result arrived at by Professor Morton's party as to the nature of the corona—the most important inquiry—is, we may almost say, of a most *bizarre* description. In the first place, it is stated that the light of the corona is *not* polarized, thereby upsetting all the previous work on which the theory of the corona being a solar appendage was supposed to rest. Professor Pickering, in fact, found that while the sky was strongly polarized all round close up to the corona, that object itself was not a source of polarized light; the corona was observed colourless, projected on a ground of tints complementary in the two images of the corona and the surrounding sky, seen in the polarizing apparatus. Next we learn that the entire light from the totality phase gave a continuous spectrum; and next, most startling thing of all, Professor C. A. Young states that he has evidence that the *solar corona is a permanent solar aurora!* so that, to quote Professor Morton's report, "It would thus seem almost certain that the corona is simply an electric discharge, no doubt varying with great rapidity, as we see in the case of the aurora and to its variations we may attribute those apparent motions of the prominences which have been observed by so many, but which our large series of photographs so conclusively shows not to have any actual existence."

The evidence for this statement lies in the fact that the bright lines which Professor Young states he saw in the spectrum of the corona are apparently, "by graphical construction," coincident with the bright lines observed by Professor Winlock in the spectrum of the Aurora Borealis. Of the nine bright lines seen by Professor Young in a prominence, three remained visible when the image of the prominence itself was removed from the slit, and the other lines disappeared. Professor Harkness, of Washington Observatory, states that he saw *one* bright line in the spectrum of the corona on a continuous-spectrum background. Now, although these observations deserve to be treated with the utmost respect, it is clear that with such a startling hypothesis resting upon them, they will have to undergo a very severe criticism, and some of this criticism lies on the surface. In the first place, the polariscope observation stands alone. In all prior eclipses in which that instrument has been employed, a directly opposite result has been obtained. Secondly, the fact that the spectrum of the light of the totality phase was continuous proves too much, if it proves anything; for, granting it

not to arise from a faint light and a wide slit, a solar aurora could not give such a spectrum, and one of bright lines too. And, finally, Professor Young and Professor Harkness might have been analysing a high-level prominence when they thought they were analysing the corona, for one at least of the lines they attribute to the corona is among those already chronicled by Mr. Lockyer in the chromosphere spectrum.

Confining ourselves merely to these considerations, this at all events is clear—that the eclipse of 1870 must be well observed. The new method, so far from rendering observations of eclipses unnecessary, lends a vastly increased interest and importance to them, and we trust soon to hear that an eclipse expedition is being organized by the Government for 1870, on the 1860 model. There can be little doubt that it will be as rich in results as was its prototype.

We now come to the more ordinary observations of the eclipse made by Professor Morton's party. The photographers were extremely fortunate, and the history of the eclipse is written in an unbroken series of photographs. No less than thirteen pictures were taken during the totality by three instruments; these show abundant detail and, in some cases, much of the corona. Some special photographs were taken of the corona by means of a long exposure, and the result was to give almost as full a development to the object as that observed by the eye, the curved structure of the rays, and the varying intensity with which they shine in different points, being very marked. Professor Morton gathers from these photographs that the brightest outbursts of the corona light are associated with those prominences which are of a pointed and flame-like shape, those of a massive description appearing to cast a shadow on the corona. Another idea which Professor Morton gathers from the photographs is that an increase of light on the solar surface in contact with the edge of the moon indicates really, as Professor Challis has before suggested, a very rare lunar atmosphere. The prominences observed are described as follows:—

"The most conspicuous prominence is that which, at a hasty glance, seems to resemble the letter X, but, on more careful inspection, is perceived to be like an ear of corn. It consists of a solid central mass inclined at an angle of about 45° to the normal at the solar surface, and with three branches from near its upper end, one sweeping backwards in a direction generally parallel to the solar surface, another forward, as concerns the direction of the general mass, and a third branching out a little below and running in the same direction as this last. The appearance of the main body, which is of a spindle shape, and with spiral markings, is highly suggestive of a vortical motion which has swept these whiffs of light matter into their peculiar positions.

"It was believed by several observers, that this object moved rapidly while they were watching it; but as the same positions are shown in the eight different negatives, (taken at Burlington and Ottumwa,) which contain it, there can be no doubt of its permanent character.

"It appears, however, beyond doubt that motion, amid the light surrounding the sun, was observed, as there is much accordant testimony on the subject. But this motion, as we shall presently see, there is every reason to believe existed in the corona, and not in the prominences, which, however, might easily have the appearance of movement, if seen against a background of shifting light.

"Immediately to the right of this ear of corn, was seen a region of soft light, among which rose two similar spindle-shaped masses inclining towards the corn ear.

"To the left appeared a mass of rolling cloud disposed in beautiful streams and curls, like the smoke from a bonfire or burning meadow, swept gently toward one side by a light wind. In connexion with these were some small masses, entirely detached and floating above the general body, as was the case in De la Rue's pictures.

"Other solid nodular masses appeared at other points; but the next most notable prominence was one which attracted the attention of all observers, and appeared to occupy a position on the lower-most edge of the sun. It is most clearly shown in the last pictures taken at each station, and resembles, in shape, a great whale with a body made up of dense, cumulous cloud matter, with a long tail clinging close to the solar edge, and stretching some 40,000 miles along. The length of the entire mass is about 110,000 miles, and the height of its more bulky portion about 28,000 miles, while its length being about 70,000 miles, we would have for its cubic capacity, assuming that its extent in the remaining direction is equal to its height, about 54,880,000,000,000 cubic miles.

"To the right of this, and only showing its entire length in the last picture of each series, was a caterpillar-like mass of cloud matter, very much like the solid rolls of horizontal vapor which are sometimes seen passing over a sheet of water. At one end rose a

projecting head, but the rest clung closely to the solar edge, and was indented with ring-like divisions, giving it much the aspect of a huge worm."

We do not gather that the chromosphere was observed by the spectroscope either before or after the eclipse, or that any observations as to the colour of the various prominences were made. This is to be regretted. But, on the other hand, we are indebted to Professor Young for a beautiful method of determining the moments of the commencement and end of the eclipse, with an accuracy hitherto undreamt of. This method consists in keeping the slit of the spectroscope directed to the point at which the contact is to take place, and noticing the extinction and reappearance of the base of the bright line C in the spectrum of the outer solar envelope, which Mr. Lockyer has named the chromosphere. In this way, the time of the first contact was determined five seconds before it was evident by any other method.

After what we have stated, we may venture to express a hope that the other reports, when they arrive, will be as rich in food for thought and for work during the next eclipse as this, the first which has been received.—*Saturday Review*.

ART.

(*Music cultivates the taste and refines and elevates the moral feelings.*—TATE)

Czerny's Letters to a Young Lady.

LETTER II.—ON TOUCH, TONE, AND THE MODE OF TREATING THE PIANO-FORTE.

Continue daily to decipher a couple of new little pieces, and at the same time to practise still more those which you have already learned, so that these latter ones may go off quicker and quicker, and that you may each week study at least two fresh pieces. For, as you have an earnest wish to attain to a high degree of excellence in piano-forte playing, you must look upon all that has been given to you as yet only as a *means to that end*, and, indeed, as that means which will conduct to this end *as quickly and as agreeably as possible*.

I could not refrain from laughing a little, if I may be allowed to tell you so, at your complaining to me how much your master vexed and tormented you with finger-exercises, with rules relating to touch, to the position of the hands, to clearness, volubility, etc., etc.

"Ah!" exclaim you, in a manner quite touching, "must all this really be so?"

Yes, such is indeed the case; and here I can not assist you. Your teacher is quite right in being so strict as to all these points, and I will explain the reason why. From every musical instrument we may produce either a fine tone or a detestable one, *according as we handle it*. The same excellent violin which, in the hands of a clever player, sounds so delightfully, will, when handled by a clumsy person, yield as disagreeable sounds as if a number of kittens were squalling. It is the same with the piano-forte. If it is not properly handled by the player, or if we merely thump and bang the keys, the best instrument will sound hard and unpleasant. On the other hand, if we employ too little force, or do not know how to use this power in a proper manner, the tone will be poor and dull, and the performance unintelligible, and without soul or expression.

The interior mechanism of the keys is such that the strings will only sound well when we—

First,—Strike each key perpendicularly; that is, straight downward and exactly in the middle, and therefore not sidewise and obliquely.

Secondly—When, after the percussion, each key is so firmly pressed down as to cause the full tone of the instrument to be audible.

Thirdly,—When, before the percussion, we do not raise the finger too high; as otherwise, along with the tone there will be heard the blow on the key.

Fourthly,—When the hand and arm, even when striking with considerable force, do not make any jumping, chopping, or oscillating movement; for you will find that the fingers can not possibly play pleasantly and tranquilly when the hands and arms are unsteady.

Fifthly and lastly,—When the player observes all these rules in rapid runs, or even in skips and extensions, as strictly as in slow and quiet passages.

All the finger-exercises, and particularly the *scales*, have no other end than to accustom the fingers to the application of these rules so thoroughly that the player shall practise all that he studies in future strictly according to the principles we have given.

"Ah! the scales," you write to me; "that is truly a tedious

story! Are these things then really as necessary as my teachersays?" Yes, these scales are the *most necessary point of all*, not only for beginners, but even for pupils who are much advanced; and indeed, the most expert players do and must constantly have recourse to and practice them. Permit me to demonstrate this to you,

You know, already that the passing of the thumb *under* the other fingers, and of the three middle fingers *over* the thumb, is absolutely necessary, and that it is the only means by which we are enabled to strike a long series of keys quickly one after the other.

But this passing of the thumb and fingers, even in the most rapid passages, must be effected in a manner so natural, equal, and unlabored that the hearer shall not be able to distinguish the smallest interruption or equality. This, however, is almost the greatest difficulty in piano-forte playing; and it is possible only when neither the arm nor the hand makes the smallest movement upward or sidewise, and when the joints of all the fingers attain gradually and by long practice so great a degree of flexibility and address that, in a rapid run over the key-board, one is almost tempted to think that the player has at least fifty fingers on each hand. To attain this highly necessary property, there is no other means than the most diligent, uninterrupted daily practice of the scales in all the keys.

But these scales have many other various uses. There are few musical compositions in which they are not introduced by the author in some shape or other. In every piece, whether written to-day or one hundred years ago, they are the principal means by which every passage and every melody is formed. The diatonic scales, or the chords broken into arpeggios, you will everywhere find employed innumerable times.

You will now easily imagine what an advantage it gives a player when he is perfectly acquainted, in all the keys, with these **FUNDAMENTAL PASSAGES**, from which so many others are derived; and what a command over the entire key-board, and what an easy insight into any musical piece, he gains thereby.

Further, no property is more necessary and important to the player than a well-developed *flexibility, lightness, and volubility* of the fingers. This can not be acquired in any way so quickly as by the practice of the scales. For, if we were to try to attain those qualities by the merely studying of different musical compositions, we should spend whole years to accomplish our purpose. Many beautiful pieces require to be executed in a very quick degree of movement, and with great volubility of finger. But how tiresome and detestable would not these same pieces sound if played slow, stiff, and unequal! And even those compositions which are slow on the whole, still contain many occasional runs and embellishments which require great rapidity of finger. All these he has *already* conquered who is able to play the scales well and with sufficient quickness.

At present you can not form an idea of the beauty and effect which is produced by a pure, clear, rapid, and *strictly equal* execution of such runs; they are musical rows of pearls; and many great artists are more particularly distinguished on account of their peculiar excellence in the performance of them. You will no doubt have already remarked that correct *fingering* is a very important part of piano-forte playing, and one which costs every pupil a good deal of labor. Now, the scales contain all the principal rules of fingering, and they are in themselves sufficient, in almost all cases, to show the pupil the right path. What do you say to all these advantages? Is it not well worth the while to occupy yourself seriously with these same tiresome scales?

I must now tell you in what way you ought to proceed to do this. For, if *studied in a wrong manner*, the scales may prove as injurious as they are capable of being serviceable when properly practised. You know that the five fingers are by no means equal to each other in natural strength. Thus, for example, the thumb is much stronger than any of the other fingers; the first finger is much stronger than the little finger; and the third finger, on the contrary, is, with almost every person, the weakest of all. The *pianist*, however, must know how to employ these various degrees of power, so that in playing the scales all the fingers may strike their appropriate keys *with perfect equality of strength*; for the scales sound well only when they are played in every respect *with the most exact equality*.

This equality is *threefold*; namely:

First,—*Equality of strength*.

No one note ought to sound, in the smallest degree, louder than another, whether it be struck with the thumb, or the first, second, third, or little finger.

Secondly,—*Equality in point of quickness*.

Each note must follow the preceding one strictly in the same degree of movement, whether we apply the scales slow or quick.

Thirdly and lastly,—*Equality in holding the notes down*.

No key must be held down for a longer or shorter time than the rest; that is, each finger must only keep its keys pressed down till the

following one is struck, and it must then be taken up exactly at the very moment that the next finger comes in contact with its key. This must, of course, also be observed, in *passing the thumb under* the middle fingers, or in passing the latter *over* the thumb.

If we offend even against only *one* of these three principal rules the equality and beauty of the run is destroyed, and the utility of the practice lost. Each scale, therefore, must be practised first with the right hand only, and then with both hands, and, *at first, extremely slow*, always consulting the judgment of your teacher, or taking the counsel of your own good ear, as to whether the fingers sufficiently observe all the rules.

From week to week you must increase the degree of rapidity, till at last all the fingers are in condition to fly over the keys with lightness, firmness, and distinct and beautiful execution. Every day when you seat yourself at the piano-forte, let the *scales* be, for one half-hour, the first thing which you attack; as by this means the fingers will be got in readiness for every thing else.

But I will not torment you longer to day, for I hope soon again to receive intelligence of your further progress.—*Peters' Musical Monthly*.

OFFICIAL NOTICES.



Ministry of Public Instruction.

APPOINTMENTS:

SCHOOL COMMISSIONERS.

The Lieutenant-Governor, by an Order in Council, dated the 16th ult., was pleased to make the following appointments:

Arthabaskaville, (village) County of Arthabaska: Messrs. Calixte Leblanc and Edouard Pouliot, to replace Messrs. Antoine Gagnon and Elisée Martel

Ste. Germaine du Lac Etchemin, County of Dorchester: Messrs. Thomas Breton and Laurent Bouchard, to replace Messrs. Olivier Raucourt and Antoine Raucourt.

Standon, County of Dorchester: The Reverend William Richardson, and Mr. François Gosselin, to replace Messrs. Isaac Holt and John Nicholson, junior.

Roseville, County of Gaspé: Messrs. David Baby, senior, and John Lemesurier, to replace Messrs. John Rose and William Mosher.

St. Jérôme du Lac St. Jean, County of Saguenay: Messrs. Léon Villeneuve, Côme Harvey, Napoléon Baillargeon, Edouard Boivin and François Gagnon, (new Municipality).

SCHOOL TRUSTEE.

St. Hyacinthe, County of St Hyacinthe: Mr. Orpheus F. Barnes, to replace himself.

GASPÉ BOARD OF EXAMINERS.

The Reverend Jean Josué Lepage, to replace the Reverend Alphonse Winter, resigned.

ERECTION OF SCHOOL MUNICIPALITY.

The Lieutenant-Governor, by an Order in Council, dated the 16th ult., was pleased to erect into a School Municipality, under the name of St. Jérôme du Lac St. Jean, the portion of each of the Townships of Caron and Metabetchouan, in the country of Saguenay, bounded as follows, to wit:

North by the Lake St. John; East by Hébertville, commencing at the twenty-fifth lot, in the first, second, third and fourth ranges of the Townships of Caron, and at the sixty-eight lot in the North and South Ranges of the above Townships; West by river Metabetchouan, and South by mountains and uncleared lands, serving as limits to the fourth Range of the Township of Caron.

DIPLOMAS GRANTED BY BOARD OF EXAMINERS.

RIMOUSKI BOARD.

Session of November 2nd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F.), 2nd class:—Miss Josephine Brisebois.

P. G. DUMAS,
Secretary.

RICHMOND (CATHOLIC) BOARD.

Session of November 2nd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (E.) 1st Class:—Mr. Patrick Daly.

F. A. BRIEN,
Secretary.

QUEBEC (CATHOLIC) BOARD.

Session of August 3rd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F.) 1st Class:—Misses M. Zélie Collin, M. Henriette Dugal, M. Hermine Fortin, Marie Guy, and Mr. Jean Garneau.

2nd Class:—Misses M. Exilda Beaudet, M. Henriette Paméla Bernier, M. Rose de Lima Bertrand, M. Agnès Céline Blais, Adéline Boutin, Félicité Léda Bussière, M. Léa Bryère, Odile Caron, M. Emélie Côté, Luce Emélie Couillard Després, M. Euphémie Joséphine Fortier, M. Philomène Gagnon, M. Adéline Gaumont, M. Emma Germain, M. Elmina Grégoire, M. Esther Grénier, Adéline Laverdière, Céline Henriette Leclerc, Rose de Lima Leclerc, M. Athalie Levasseur, M. Alvina Ouellet, Zélie Petit dite St. Pierre, M. Aurélie Roy, Virginie Roy, M. Adèle Roy, M. Clarida Savard, M. Lse. Thivierge, Wilhelmine Tremblay, M. Henriette Trépanier, and Catherine Fitzgerald (E.)

N. LACASSE,
Secretary.

Session of November 2nd, 1869.

ELEMENTARY SCHOOL DIPLOMA, (F. and E.) 1st Class:—Misses Elizabeth Neville and M. Anne Mathilde Tardif; (F.), Rose de Lima Boutin, Caroline Alphonsine Gagné, Lse. Alphonsine Huot, M. Luce Michaud Catherine Adélaïde Paré, and Mr. Patrick Murphy. (E.)

2nd Class (F.):—Misses M. Anne Dion, M. Esther Dumont, M. Philomène Fauchon, Adélaïde Paméla Frenette, Julie Sara Landry, Victoire Morin, Henriette Roy, and M. Caroline Roy.

N. LACASSE,
Secretary.

MONTREAL (CATHOLIC) BOARD.

Session of November 2nd, 1869.

MODEL SCHOOL DIPLOMA, (F.) 1st Class:—Mr. Désiré Brodeur and Miss Thérèse Plamondon.

2nd Class:—(F. and E.) Mr. William Riley.

ELEMENTARY SCHOOL DIPLOMA, (F.) 1st Class:—Misses Marie L. Charlotte Bédard, Mathilde Richer, and Marie Salva, Hélène Desjardins, Adéline Girard, Marg. Adélaïde Hébert, Rosalie Lamoureux, Anne Lanthier, Rachel Alice Leblanc, Mélanie Lefebvre, Malvina Martel, Mélanie Morin, (E. and F.) Hélien Nichols and Mary Corcoran.

2nd Class (F):—Marie Louise Bissonnet, Céline Leclair, Rose de Lima Miran, Céline Pilotte, and Malvina Prevost.

F. X. VALADE,
Secretary.

MONTREAL (PROTESTANT) BOARD.

Session of November 2nd, 1869.

ACADEMY DIPLOMA, (E) 1st Class:—Mr. F. C. Emberson.

MODEL SCHOOL DIPLOMA, 1st Class:—Mr. James Cruickshank.

ELEMENTARY SCHOOL DIPLOMA, 1st Class:—Misses Christina Blair, Susanna Cowan, Annie Eliza Moore, Alice Robinson, and Mrs. Eliza McDonald.

2nd Class:—Misses Margaret A. Beattie, Eliza Anna Grant, Maria Owens, Jane Remington, Delia Robson, and Cynthia Traner.

T. A. GIBSON,
Secretary.

BONAVENTURE BOARD.

Session of November 2nd, 1869.

ELEMENTARY SCHOOL DIPLOMA (F & E) 1st Class:—Miss Flore Lefebvre.

J. A. LEBEL,
Secretary.

THE JOURNAL OF EDUCATION.

QUEBEC, (PROVINCE OF QUEBEC,) DECEMBER, 1869.

To the Readers of the Journal.

In December 1868, we took occasion to bespeak for this Journal a more particular attention to its character and aims—to its usefulness as a vehicle of educational, literary and scientific information—its value as an instrument necessary for the promotion of educational interests generally in the Province. Were it not for the want of space, we might, it is believed, appropriately reproduce in this, the last monthly issue for 1869, nearly the whole observations then made. But we must here content ourselves with repeating a quotation of the few closing sentences, which are, at any rate, not less applicable now than last year namely, “Such a publication, a monthly compendium of Literature, Educational, Official Information and Science, and one that faithfully keeps in view its professed character as indicated by its title, is indispensable to the teachers and their coadjutors in the business of Education. To all connected with them in the exercise of their vocation, it is no less useful than necessary, because it keeps them informed upon educational matters elsewhere, while, at the same time, it furnishes whatever interests them locally; and, it would be well indeed, if the circle of regular readers of such a Journal included, not merely teachers and the parents or guardians of youth, the Clergy, School Commissioners &c, but likewise all those whose function it is to legislate for the whole people.”

In presenting the closing number for the outgoing year, the conductors of the Journal may be permitted to point with satisfaction to the character of the selections and articles contained in the several monthly parts. On each subject embraced in our list of topics, it will be seen that care has been taken to set nothing before the reader but that which, on perusal, commends itself by its great merit and suitability. In particular, under the heads of Education, Literature and Science, our Index shews a number of most important and interesting articles. We have the ably stated views, on points more or less debateable, but still of extreme interest, of some of the most eminent public men and educationists of the age. Then we have various subjects introduced forming the staple questions of the day in regard to practical education such as Infant Education, Physical Education, the Teaching of Science in Schools, Systems of rewards and punishments &c. &c., and, in addition to selections from the principal Educational periodicals of England and America, made with due care as to our own wants, and their usefulness and literary merit, we have attempted, in the past year, to afford more complete information of our leading Public Institutions, so far as this can be rendered by reports of their annual meetings, public examinations and closing exercises.

We might further particularize by specifying the titles of our selections on Literature and on Science; and we might refer to Revd. Æneas McD. Dawson's valuable papers on the British and French Canadian Poets, Principal Dawson's articles on Science

Addresses before the Literary and Historical Society of Quebec, and Capt. Ashe's papers on Astronomy as well as several other essays and original contributions.

As heretofore, in the educational periodicals published in the United States, we find our selected and other articles not unfrequently reproduced without any acknowledgement of their having been taken from our Journal. Whether or not this be a just ground of complaint we shall not undertake to decide; but we may at least claim the thing itself as evidence in favour of the character and standing of our Journal amongst our enterprising neighbours.

The foregoing remarks are made solely with a view to fortify our claim for a more extended circulation amongst our own people—especially our teachers and those whose duty and wish it is to further the interests of education in this Province.

To one other point, not alluded to in the remarks addressed to our readers last December, it seems desirable to use this opportunity of advertizing. Our journal is prepared for the use of our English readers, Protestant and Catholic alike, and for neither exclusively. While, therefore, we claim in its behalf a more extended circulation, on the grounds that it furnishes, at an extremely low cost, a large body of valuable and varied information, and of most profitable reading, appropriate in such a publication, and not to be found in any other accessible to the generality of readers in this country, merely controversial articles, touching on matters of creed are necessarily, and carefully excluded. Unless such a course were rigorously followed its usefulness would be sadly interfered with by the danger of rousing unfriendly susceptibilities, under the influence of which the true interests of Education might be forgotten.

We must not omit, in conclusion, to tender thanks to those who have contributed to the columns of our journal during the past year. The meteorological papers, as heretofore, have been regularly furnished by Dr. Smallwood of Montreal, and Sergeant Thurling of the Army Hospital Corps, Quebec. To them, for their pains and care in keeping the journal supplied with the interesting facts of Canadian Meteorology, as indicated at two principal stations of the Province of Quebec, our readers cannot but feel greatly indebted.

We also take this opportunity of returning thanks to the conductors of various educational periodicals who have kindly continued to forward their valuable publications in exchange for ours.

Report of the Committee of Council on (English) Education, for 1868-69.

We present our readers with an abstract of this Report, which the Office has just presented to her Majesty.

My Lords commence with a series of tables, showing the sustained progress which has marked the past year.

The increase in the number of inspected schools in England and Wales, has been 820, of which 25 are simply inspected; and in Scotland, 161, of which 13 are simply inspected. The number of scholars present on the day of inspection, in schools receiving annual grants, has been increased in England and Wales by 114,378, of which 12,533 were evening scholars; and in Scotland by 18,301, of which 161 were evening scholars. The average number attending such schools has increased in England and Wales by 76,159, of which 9,319 were evening scholars; and in Scotland by 15,460, of which 321 were evening scholars. In schools simply inspected, the increase of children present at inspection, in England and Wales, was 2,398, of which 61 were evening scholars; and in Scotland, 1,488, no return of evening scholars being made. The increase in the average number

attending such schools, in England and Wales, was 1,566, of which 158 were evening scholars; and in Scotland, 1,142, there being again no return for evening scholars.

In England and Wales, the increase in the number of certificated teachers was 592; of assistants, 92; of pupil teachers, 1,315; in Scotland, there was an increase of 182 certificated teachers, and 353 pupil teachers, but a decrease of 23 assistants.

After some general remarks on the various classes of schools, one of which is entirely independent of Government control, two are only partially subject to it, and one alone in full connection with the Department, the Report proceeds to state that the average number of day scholars attending schools of this class, in Great Britain, during the year ending August 31st, 1868, was 1,163,368, or 4·6 per cent. of the estimated population for 1868. The number (1,685,168) of scholars on the books of the same schools was 6·7 per cent., and the number (1,914,440) of scholars whom they would hold was 7·6 per cent. of the same population. The maintenance of annual grant schools, during the same year, cost £1,552,542, of which £484,010 came from Government; £66,812 from endowments; £508,779 from scholars' fees; £492,941 from the voluntary contributions of 194,745 persons, who, having at heart the right education of their countrymen, not only give this large sum, but perform gratuitously all local duties in connection with the schools. And in addition, £144,547 was subscribed for building schools, and £28,540 was raised for the support of Training Colleges, about £5,800 of which was paid as fees by students or their friends. An addition at the rate of 52,104 per annum has been made, during the last three years, to the annual average number of day scholars in annual grant schools, and an addition of 83,971 per annum to the number present on the day of inspection.

My Lords than notice the simple inspection schools.

Last year the Inspectors had on their lists 2,779 such schools, and visited 748, and found in them 45,520 day scholars. The process of changing them into annual grant schools is constantly going on. Quotations are made from the reports of twelve Inspectors in various parts of England, Scotland, and Wales, to show that such schools are far inferior as a rule to those schools which receive annual grants. Indeed though some consider simple inspection as producing a good effect upon schools, others (Mr. Bellairs for example) regard it as, in most cases, wasted. My Lords notice with approval a scheme described by Mr. Perez, as existing in the Diocese of Carlisle, for aiding small schools not receiving Government grants, by making money payments to Teachers on a system of payments for results, similar to that of the Revised Code. These payments vary from 5s. to £3 or £4. And after calling attention to the fact that the simple inspection schools are not unfavourable representatives of that part of elementary education lying outside of the annually aided schools, they speak of the grave consideration that the description of the state of the children in such schools applies to 1,017,632 other children in other schools not inspected.

Building.—On this head the report states that £179,010 was spent in the year ending December 31st, 1868, of which £34,463 was public money. Thus 208 new schoolrooms and 82 Teachers' residences were built, 73 schools were enlarged or improved, accommodation provided for 29,811 children, showing an increase under each head on the previous year. Out of 103 Church of England Schools built nine were under a Conscience Clause.

Examinations.—In the year ending 31st August, 1868, there were 1,685,168 children on the registers of annually aided schools in Great Britain, of whom 747,898 were examined; 512,973 or 68·59 per cent. passed without failure. From the investigations of passes and failures in the respective standards, with regard to the age of the children examined, the conclusion is drawn that of four-fifths of those about to leave school, either no account, or an unsatisfactory one, is given by an examination of the most elementary kind; while with respect to those not examined there are many reasons for thinking these less proficient than those examined. My Lords again therefore call the notice of Her Majesty to the small proportion of scholars over ten years of age who pass with complete success in any one of the three higher standards.

Reading.—In Great Britain, 91·03 per cent. passed.

Writing.—In this subject 88·49 per cent.; and in

Arithmetic, 77·7 per cent. passed.

In each case a slight increase is shown on the returns of the preceding year; and in each case the results were better in Scotland than in England and Wales. But considering that 20·7 per cent. of children over 10 years of age were examined in Standards I. and II., My Lords don't regard the increase with much satisfaction, though they allow the arduousness of the task of securing that the great majority of any scholars shall reproduce fairly well the instruction received.

Objections made by Inspectors to the working of individual examinations are then noticed. In spite of these, My Lords hold that no other method will equally well secure that the greatest possible number of the scholars shall be raised to the point of passing. And they declare their opinion that the school which obtains fewer passes is *pro tanto* the worse school; that it is the Manager's own loss if the number presented does not bear a proper proportion to the average attendance, and that it is the Inspector's fault if the higher Standards are evaded; and that however unpopular deductions from the grant may be, public money should not be paid under circumstances where it was never meant to be given.

The Revised Code is generally regarded with favour by the Inspectors, though some complain that there is no serious increase in the number of inspected Schools.

The complaints of some Inspectors about the management of schools, lead My Lords to notice that this uncertainty of voluntary action is its weak side, and causes a heavy burden to the clergy, who as the visible representatives of a common duty, are often left to choose between seeing it go undone, or doing it themselves in some wholly disproportionate degree. This difficulty exists in an even greater degree in Roman Catholic Schools, where the population is usually immigrant, very poor, and the priests frequently changed, and a larger area of management is recommended, with district boards of clergy and laymen for particular schools.

The Inspectors generally report favourably of certificated teachers. The employment of mistresses as recommended strongly by Mr. Tregarthen and Mr. Pryce, for rural and mixed schools, is approved by My Lords. The increase in the number of pupil-teachers, viz., 1,982, and the steady rise of salaries—specially those of masters—are matters of congratulation. Five Inspectors' reports are referred to as still complaining of the difficulty of procuring pupil-teachers and the decline in their attainments; and five others, as noticing recovery, or the beginning of it. Three are quoted as insisting upon the superiority of girls over boys for the office of pupil-teacher.

The difficulty of procuring pupils is asserted to be, to a considerable extent factitious, and to proceed from the practice of school farming, which is strongly condemned. And it is stated, that, while deductions under Art. 52 Cap. 1, were made last year, to the amount of £2,695, the income of the school had, in more than one instance, been improperly (to use no harsher term) exaggerated in the returns. Mr. Corry's Minute (28th Feb., 1867, Arts. 46, 54, 99) is approved in principle by all Inspectors, and though its conditions are said to be too intricate, yet the Minute promotes efficiency, and has produced considerable effect. The sum of £13,235 has been granted under it. Small schools having an average below 64 specially benefit by it, and 744 got extra grants: 1,870 larger schools also received grants. Altogether 9,073 schools or departments (*i. e.*, 28·8 per cent. of those examined) were paid extra sums under it, being an increase of 10·7 per cent. on those examined in the five months of 1867, during which the Minute was in operation. The grants for evening scholars have risen to £17,664 on 52,499 scholars examined, against £14,134 on 40,572 scholars in the year before. The estimate for this year is 23,395. The increase arises from the permission given to the Managers to conduct the examination (Arts. 142-9). The result of these examinations is not considered satisfactory, because of the lowness of the Standards in which the scholars were presented, and the number of the failures. In Standard I and II, 56·9 per cent. were presented.

In Reading—7·98 per cent. failed;

" Writing—15·69 " "

" Arithmetic—19·92 " "

taking the whole number in all the Standards.

The Inspectors who notice the subject of Compulsory Education are favourable to its principle. Mr. Tregarthen speaks of it as regards attendance of scholars and provision of schools. Mr. Routledge and Mr. Du Port concur with Mr. Tregarthen in recommending indirect compulsion in rural districts in the form of an enactment prohibiting the employment of children who have not passed some educational test. Mr. Sandford shows that without a local rate the poorer class in his district cannot be educated, nor schools properly provided with assistant and pupil teachers. Mr. Bowstead says that 300 additional elementary schools are wanted in his district, and cannot be provided by the action of the present system within any reasonable time. Mr. Mitchell, Mr. French, Mr. Howard, Mr. Waddington advocate some kind of compulsion. Mr. Steele, while pointing out a defect in the Factory Act, agrees with the proposal of requiring some education to have been given to a child ere he is permitted to labour.

The sum of money granted to Normal Schools last year was—

£72,045 13s. 10d. meeting

28,540 14s. 3d. from other sources.

There were 906 male students and 1380 females resident, while

accommodation exists in them for 1694 males and 1567 females. The accommodation for students was increased last year by 50 in Homerton Congregational College, and 6 in the Episcopal Church College in Scotland, while 298 vacant places are due to the Presbyterian Colleges in Scotland, and (with the exception of a small number of female students at Edinburgh) do not represent empty colleges, but the absence of so many students lodging by themselves. The total number of resident students is 29 more than the previous year's number.

Of candidates for admission in 1868 (615 males, 910 females) 457 males passed and 788 females, being an increase of 16 male candidates and 3 passes over the year before, and an increase of 31 female candidates and 74 passes.

The number of pupil teacher candidates is less than in 1867, and the quality of the male candidates worse: males being in 1868, 413 candidates and 69 failures against, 445 candidates and 57 failures in 1867; and females 631 and 56 in 1868, against 674 and 99 in 1867. After noticing that the pupil teachers who came up last year were apprenticed during the panic caused by the Revised Code, and that the number of pupil teachers is now steadily rising, the Report again adverts to Mr. Corry's Minute as exercising a beneficial influence here, stating that the grant under its two sections amounted after Examinations of 1868 to £2,536.

They conclude by quoting Mr. Tinning's and Mr. Stokes' condemnation of the proposed abolition of the Admission Examination.

The Report is signed by—

DE GREY AND RAPON,
W. E. FORSTER.

McGill University.

FOUNDER'S FESTIVAL.

The 26th ult. was the birth-day of the founder of McGill University, and was celebrated in the evening by the Governors, graduates and friends of the University by the usual entertainment, now so well known as "Founder's Festival." Guests began to arrive at eight o'clock, and soon the halls of the University were thronged with a fashionable assembly. The Prince arrived about half-past eight, and was received in the Library by Principal Dawson, who presented to His Royal Highness the Professors and Governors of the University and the President and a number of the members of the University Society. This ceremony over, the Prince was conducted to the Upper Hall, the band playing the National Anthem. On reaching the platform, Peter Redpath, Esq., on behalf of the Governors of the University, read the following address to His Royal Highness.

To his Royal Highness Arthur William Patrick Albert :

MAY IT PLEASE YOUR ROYAL HIGHNESS.

We the Governors, Principal and Fellows of the McGill University beg leave to express on behalf of the University and more especially of its graduates and students our gratification in receiving your Royal Highness as our guest on the occasion of the annual celebration in memory of our founder, a man whom the youth of Canada delights to honor as the originator of our earliest University and as one whose wise generosity has been the means of securing not merely facilities for the higher education, but also, that Royal Charter granted nearly half a century ago, and under which our students are rewarded with the same degrees given for similar proficiency in the Mother Country. Our pleasure on this occasion is enhanced by the recollection that we see in Your Royal Highness a representative, both of our Gracious Sovereign and of one now departed, but whose memory is revered throughout the Empire as that of an eminent Patron of Education, Literature and Science; and, also a representative of that cherished connection with the Mother Country which we would wish to see constantly drawn closer and cemented by mutual good offices and by a friendly rivalry in all that can elevate and ennoble whether those of Her Majesty's subjects who remain at home, or those who are the pioneers of a new civilization in this and other dependencies of the Empire.

J. W. Dawson, LL.D., &c, Principal.
William T. Leach, Vice-Principal.
J. J. C. Abbott, D.C.L., Q. C.
Chas. D. Day.
James Ferrier.
William Molson.
Peter Redpath.
George Moffatt.
A. Robertson.
John H. R. Molson.

David Torrance.
T. B. Anderson.
John Frothingham.
G. H. Campbell, M.D.
Henry Wilkes, D.D.
Henry Aspinwall, Howe, M.A.
Alexander Johnson, LL.D.
George Cornish, M. A.
P. R. Lafrenaye, B.C.L.
Robert A. Leach, M.A. B.C.L.
R. A. Ramsay, M.A., B.C.L.
C. P. Davidson, M.A., B.C.L.

His Royal Highness read the following reply :
To the Governors, Principal and Fellows of the McGill University :

GENTLEMEN,—It affords me sincere satisfaction to be the guest of a Corporation so learned and distinguished, more especially on an occasion like the present, when we are assembled here to pay a just tribute to real worth, by honoring the memory of the great and true-hearted founder of this noble institution—one who was esteemed alike for his soundness of judgment as for his liberality and goodness of heart.

Sincerely do I trust that this University, which has so thoroughly carried out the views of the founder, may continue to prosper, that it may be the means of spreading widely the blessings of a sound and liberal education, and that the exertions of teachers as well as of students may enable it soon to number on its rolls, names as distinguished in the field of science and literature as is that of the founder for liberal munificence.

Pray accept my thanks for the welcome you have given me within the walls of this College.

ARTHUR.

After an Overture by Thorbahn's Band,

W. B. MALLOCH, Esq., M.D., C. M., President of the University Society, delivered the following address on its behalf :

Ladies and Gentlemen,—Another year having passed, we are again assembled, according to the custom of years gone by, to celebrate the founding of this University—our *Alma Mater*. As President of the University Society, I have the pleasure, on behalf of it and the under graduates of McGill College, to welcome you to join us in this our annual celebration, and to thank you for favouring us with your presence on this occasion. Our festival of to-night is given a higher honour than those of previous years have been able to boast. We give welcome with feelings of profound gratification to a scion of that Royal house, whose benign sway over this Empire has made us one and all to love her who sits upon the throne of England. In the beginning of the present century when Canada was more sparsely settled than now, and Montreal was a comparatively small but flourishing town, but in all parts making rapid strides to become a wealthy and powerful commonwealth, the advantage and necessity for a high education began to be felt. At this time the Hon. James McGill, a wealthy merchant and a member of the Legislative Council, with far-sighted wisdom for the highest welfare of the city and country, by his generosity bequeathed a large sum of money and extensive lands for the foundation and maintenance of a University and College in this city. In 1821, a Royal charter was obtained, and the University established in accordance with the wishes of its generous founder. The College continued in existence till 1852, when the charter was amended, and the University increased in its powers. Since that time under the able management of its present talented Principal, the University has gone on increasing in its sphere of usefulness, disseminating knowledge broad-cast over the land by the hands of well-trained alumni, who issue from its halls year after year. Some ten years ago a few of the graduates, feeling the advantage they had derived from the opportunities presented by the University, desired to celebrate, in a pleasant way, the birth of their *Alma Mater*. In this way, the present series of annual re-unions was commenced by these Alumni, who have since risen to a high and useful position in society. I am sure these gentlemen will pardon me for mentioning their names. One is Dr. Hingston, our eminent physician in this city; the second, Brown Chamberlin, Esq., a member of the House of Commons, and the third, the Honorable Alexander Morris, Minister of Inland Revenue, and a member of the Privy Council. From the members present here to-night, I am happy to find that these reunions of the graduates, students, and their friends are still enjoyed, and if but one pleasant hour is enjoyed in this way, I can heartily assure you that the efforts of the Committee will have been repaid.

I will not attempt to delay you by making further remarks, but will leave you to enjoy the more pleasant part of the Programme. In conclusion, I again thank you for favoring us with your presence this evening.

Miss Easty then sang very sweetly the song "Bid me Discourse," which was well received by the audience.

The best part of the programme was the singing of the accompanying song, composed by the students expressly for the occasion. Mr. John Campbell sang the Solo, and the students joined in the chorus. The song, set to the tune of "God bless our New Dominion," was sung in splendid style, and rapturously applauded.

Mr. Wolfred D. E. Nelson having been introduced by Principal Dawson to His Royal Highness, addressed him as follows;

I have much pleasure in presenting Your Royal Highness with this song, composed, by our students, and dedicated to yourself.

His Royal Highness graciously accepted the song, and briefly expressed his thanks to the students for the honour.

The following is the song:

"GOD BLESS OUR SOLDIER PRINCE,"

A Song and Chorus composed for the Founder's Festival, 1869, and dedicated to H. R. H. Prince Arthur, by the Students of McGill College.

CHORUS.

Let Students' Songs of Welcome,
Our joyousness evince;
Hurrah! for youthful Arthur,
God bless our Soldier Prince!

Though young our *Alma Mater*—
Its fame is yet to be—
What time in ages later
"The twig becomes the tree."

Let Students' Songs of Welcome, etc.

Those arts of antique temper,
Whose study sages say
Emollit mores semper
Controls our passions' sway,
With Galen's art of healing,
Have votaries here by score
With others their paths feeling
Through mists of legal lore.

Let Students' Songs of Welcome, etc.

We love old England's glory
And race from which we sprung—
Her ancient maxims hoary
Are precepts for the young.
Tell Her whose kindly wisdom
Soars petty things above—
Our speech is no lip service,
Our loyalty is love.

Let Students' Songs of Welcome, etc.

The entire management was without a flaw, and the Stewards may be congratulated on the complete success of the entertainment.

The entrance to the College building was brilliantly illuminated by a number of Chinese lanterns hanging from the bushes in front. Guests were announced at the head of the stairs leading to the Molson Hall, and were received by the ladies of the Principal and the Chancellor, and of some of the Governors of the University. The Hall was handsomely decorated. During the intervals of the programme His Royal Highness was conducted through the Museum, and he spent some time in examining the collection of curiosities therein contained. At ten o'clock he and the other guests sat down to a splendid supper, served in two of the Rooms in the east end of the College.

We append the names of the Stewards, and all our word of commendation for the handsome and successful manner in which they discharged their duties:

John Bell, M.A., M.D.; R. A. Ramsay, M.A., B.C.L.; C. P. Davidson, M.A., B.C.L.; J. J. Maclaren, M.A., L.L.B.; D. R. McCord, M.A., B.C.L.; F. Mackenzie, B.C.L.; E. Holton, B.C.L.; W. DeC. Harnett, D. McCormick, E. C. Monk, W. D. E. Nelson, N. Mathieson, J. B. Birks, G. W. Major, J. S. Tupper, J. D. Cline.

Daily News.

School of Art and Design, Montreal.

On two evenings during last week the writer visited the classes in connection with the School of Art and Design, recently established by the Board of Arts and Manufactures, in the Molsons Bank buildings. We were pleased to see the practical evidence of the success which has attended the effort of the board to establish this school,

in the large attendance of pupils, the interest evinced in their studies, and the orderly manner in which all the classes are conducted. In the Freehand class there are 76 pupils, the Architectural 48, Practical Geometry 64, Mechanical Drawing 33, Linear Perspective 21. A class for modelling has also been commenced this week, which gives promise of being very valuable as a means of developing the latent talent of many of our young men. The beautiful casts obtained from the South Kensington museum form excellent examples from which to copy. With the exception of the latter class, which is, as yet, without a regular teacher, all the classes are provided with teachers, who give explanations in both the English and French languages.

Although the means at the disposal of the board are very limited, it is in contemplation to open a class for practical chemistry, as applied to the mechanical arts. This will be of great value also, and we hope it will be attended with the same success as the others. It is gratifying to see so many of the young men avail themselves of the opportunity thus afforded for acquiring technical knowledge that will be invaluable to them in their future business career. If the commencement, so well begun, is followed up, the benefit to the country will be sensibly felt in a few years. It is to the credit of these young men that they had the good sense to act upon the advice so judiciously given by Dr. Dawson and the other gentlemen who spoke on the inauguration evening.

It is only fifteen or sixteen years since the organization of a similar institution in England where the absolute necessity for it had been developed. The movement was encouraged and fostered by the Imperial Government, and now it has its ramifications in almost every manufacturing town in the Kingdom, and gives material assistance to similar institutions throughout the Empire, by supplying models, copies, &c., at reduced prices.

We trust that the Board of Arts and Manufactures will meet with the same enlightened encouragement and support, and that it will, before another year, be in a position to open classes in other branches of technical studies for the operative mechanics of the country. The Board is now doing an important work, the future advantage of which cannot be over estimated.

It is but right to mention that some one of the Committee gives a personal supervision of the rooms each evening. Visitors, we believe, would be welcome to examine the progress being made and an hour could be very profitably spent in doing so.—*Montreal Gazette*, November 22nd, 1869.

Armorial Bearings for the Dominion.

The following appeared in an Extra of the *Canada Gazette*, of November 20, 1869.

VICTORIA R.

VICTORIA, by the Grace of God, of the United Kingdom of Great Britain and Ireland, QUEEN, Defender of the Faith, &c.

To Our Right Trusty and well beloved Councillor Edward George Fitzalan Howard, (commonly called Lord Edward George Fitzalan Howard), Deputy to Our Right Trusty and Right entirely beloved cousin, Henry Duke of Norfolk, Earl Marshal and Our Hereditary Marshal of England—GREETING:

WHEREAS by virtue of, and under the authority of an Act of Parliament, passed in the Twenty-ninth year of Our Reign, entitled "An Act for the Union of Canada, Nova Scotia, and New Brunswick, and the Government thereof," We were empowered to declare, after a certain day therein appointed, that the said Provinces of Canada, Nova Scotia, and New Brunswick, should form one Dominion under the name of Canada. And it was provided that on and after the day so appointed, Canada should be divided into four Provinces, named: Ontario, Quebec, Nova Scotia, and New Brunswick; that the part of the then Province of Canada, which formerly constituted the Province of Upper Canada, should constitute the Province of Ontario; and the part which formerly constituted the Province of Lower Canada, should constitute the Province of Quebec; and that the Provinces of Nova Scotia and New Brunswick should have the same limits as at the passing of the said Act. And whereas we did by Our Royal Proclamation, bearing date the Twenty-Second day of May last, declare, ordain and command that, on and after the First day of July, 1867, the said Provinces should form and be one Dominion under the name of Canada accordingly.

And forasmuch as it is Our Royal will and pleasure that, for the greater honor and distinction of the said Provinces, certain Armorial Ensigns should be assigned to them.

KNOW YE, therefore, that We, of our Princely Grace and special favor have granted and assigned, and by these presents do grant and assign the Armorial Ensigns following, that is to say:

FOR THE PROVINCE OF ONTARIO.

Vert a Sprig of three Leaves of Maple slipped, or on a chief Argent the Cross of St. George.

FOR THE PROVINCE OF QUEBEC.

Or on a Fess Gules between two Fleur de Lis in chief Azure, and a sprig of three Leaves of Maple slipped vert in base, a Lion passant gardant or.

FOR THE PROVINCE OF NOVA SCOTIA.

Or on a Fess Wavy Azure between three Thistles proper, a Salmon Naant Argent.

FOR THE PROVINCE OF NEW BRUNSWICK.

Or on Waves a Lymphad, or Ancient Galley, with Oars in action, proper on a chief Gules a Lion passant gardant or, as the same are severally depicted in the margin hereof, to be borne for the said respective Provinces on Seals, Shields, Banners, Flags or otherwise according to the Laws of Arms.

And we are further pleased to declare that the said United Provinces of Canada, being one Dominion under the name of Canada, shall, on all occasions that may be required, use a Common Seal to be called "Great Seal of Canada," which said seal shall be composed of the Arms of the said Four Provinces quarterly, all which armorial bearings are set forth in this Our Royal Warrant: Our Will and Pleasure therefore is that you, Edward George Fitzalan Howard, (commonly called Lord Edward George Fitzalan Howard), Deputy to our said Earl Marshal, to whom the cognizance of matters of this nature doth properly belong, do require and command that this Our Concession and Declaration be recorded in our College of Arms in order that Our Officers of Arms and all other Public Functionaries whom it may concern may take full notice and knowledge thereof in their several and respective departments. And for so doing this shall be your Warrant given at Our Court at St. James, this twentieth day of May, in the thirty-first year of Our Reign.

By Her Majesty's Command,

(Signed,) BUCKINGHAM & CHANDOS.

Current Exchanges Received.

The Canadian Journal of Science, Literature, and History: vol. XII. No. 1. (New series, whole No. LXX.)—November, 1869.

The Illinois Teacher, Devoted to Education, Science, and Free Schools,—December, 1869.

The Rhode Island Schoolmaster,—December, 1869.

Hitchcock's New Monthly Magazine of Choice Music, Art Notes, and Select Reading for the Family Circle,—November, 1869.

Howe's Musical Monthly:—Each no. has 32 large quarto pages. The contents of the present no. (6) are 12 instrumental pieces and 10 songs, Piano accompaniment, all for 35 cents. Terms, \$3.00 per annum; to Clubs, 7 copies for \$18.00. Single copies sent by mail, post paid, on receipt of 35 cents, or 7 for \$2.00. Published and sold by Elias Howe, 103 Court Street, Boston, Mass.

Advertisers Gazette, 40 Park Row, N. Y.,—December, 1869.

The Manufacturer and Builder,—November, 1869. This work,—only \$1.50 a year,—is a marvel of cheapness.

The Michigan Teacher,—November, 1869.

The National Normal,—November, 1869.

The Pennsylvania School Journal,—December, 1869.

The Young Crusader,—December, 1869.

The American Journal of Science and Arts,—November, 1869.

American Educational Monthly, Devoted to Popular Instruction and Literature,—December, 1869.

Peters' Musical Monthly,—December, 1869. One of the best numbers issued in 1869.

The ORead of Mount Carroll Seminary, Carroll County, Illinois,—November, 1869,—Vol. 1. No. 8 The first no. received.

The Minnesota Teacher,—December, 1869.

Ohio Educational Monthly,—December, 1869.

The Maine Journal of Education,—November, 1869.

Packard's Monthly,—January, 1870,—is promptly to hand, and up to its usual mark.

The Cincinnati Medical Repertory,—Edited by J. A. Thacker, M. D.,—December, 1869.

Report (No. 2.) of The Eighteenth Annual Session of the Teachers' Institute of Lancaster County, Pa.,—November, 1869.

Miscellaneous.

—*Her Majesty's Gift to Scotland*.—The *Telegraph* says that on the people about Balmoral the Queen has announced her intention of conferring a boon which will be highly prized by those who, being imbued with the traditions of Scotland, attach a high value to education: Out of the profits derived from the Sale of the "The Leaves from a Journal," she has set aside the sum of £2,500 to provide schools and college bursaries for the benefit of scholars belonging to the district round Balmoral. Three or more bursaries of £5 each, tenable for four years, will reward the zeal of deserving students at the schools of Crathie and Girnock. To the University of Aberdeen will be allotted three bursaries of £25 each, tenable for the same period, and open to the relatives of any persons who are or have been servants, retainers, tenants, or cottiers upon the estates at Balmoral, Abergeldie, or Birkhall; and, if no such students apply for the bursaries, the prizes will fall to the sons of any person residing in the parishes of Crathie and Braemar. A greater boon her Majesty could hardly confer on the poor students who seek the facilities of the parish school, and who then go to the University of Aberdeen.

—The following are the handsome bequests of the late James Gibb, Esq, to Quebec Institutions and charities:—\$20,000, to Morrin College; \$20,000 to the High School; \$20,000 to Findlay Asylum; \$20,000 to Jeffrey Hale Hospital; \$20,000 to the Ladies' Protestant Home; \$6,000 to St. Bridget's Asylum; \$6,000 to the Sisters of Charity, and \$6,000 to the Congregation of St. Roch. These sums are payable at the decease of his widow, who is left a life interest in all his estate, and the remainder, said to be about \$120,000, is to be distributed between English and French Catholics,—St. Andrew's, Chalmers', and St. Roch's Churches,—in similar proportions to those allotted to the above charities.

ECLIPSES.

—In the year 1870 there will be four Eclipses of the Sun, and two of the Moon.

I.—A total eclipse of the Moon, January 16-17, 1870.

No eclipse will be visible at Halifax, as the Moon will be set before the first contact with the Penumbra. The Moon will also set at Halifax and London and all intermediate stations before the first contact with the shadow. Hence the only phase visible will be the first contact with the Penumbra, which occurs at the local astronomical time given in the following table:—

PHASE.	Frederic't'n		Quebec		Montreal		Kingston		Toronto		London	
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.
First contact with the Penumbra, Jan. 16.	19	31.3	19	11.0	19	1.4	18	49.7	18	38.3	18	20.6

II.—A partial eclipse of the Sun, January 31, 1870, invisible in Canada.

III.—A partial eclipse of the Sun, June 28, 1870, invisible in Canada.

IV.—A total eclipse of the Moon, July 12, 1870.

The total phase will end before the Moon rises in Canada. The last contact with the shadow will be seen at Halifax and Fredericton soon after the rising of the Moon; and the last contact with the Penumbra will be visible at all the stations in the following table.

The following table gives the local mean astronomical time at which the above named phases occur:

PHASE.	Halifax	Fredericton		Quebec	Montreal		Kingston	Toronto		London	
	h. m.	h.	m.	h. m.	h.	m.	h. m.	h.	m.	h. m.	
Last contact with the Shadow...	8 9.4	7	59.3	h. m.	
Last contact with the Penumbra.	9 8.0	8	57.9	8.37.6	8	28.0	8	16.3	8	4.9	7 57.2

V.—A partial eclipse of the Sun, July 27, 1870, invisible in Canada.

VI.—A total eclipse of the Sun, December 21-22, 1870, visible (as a partial one) in some parts of Canada.

From a point in or near Halifax, in latitude 44° 44' N. and longitude 4h. 14m. 44s. W.

The sun rises partially eclipsed.

The magnitude of the eclipse at sunrise 0.205 (Sun's diameter = 1).

Last contact occurs December 21, 19h. 55.5m. mean astronomical time at Halifax.

Angle from the North Pole at last contact 80° towards the East (for direct image).

As seen from a point in or near Fredericton, in latitude 46° 3' N. and longitude 4h. 24m. 32sec. a space of about ten seconds of arc will intervene between the limbs of the Sun and Moon at the time of sunrise.

The eclipse will be invisible at Quebec and Toronto.

METEOROLOGICAL INTELLIGENCE.

—From the Records of the Montreal Observatory, lat. 45° 31' North; Long. 4h. 54m. 11 sec. West of Greenwich, and 182 feet above mean sea level,—For Nov., 1869,—By CHAS. SMALLWOOD, M.D., LL.D., D.C.L.

DAYS.	Barometer corrected at 32°			Temperature of the Air.			Direction of Wind.			Miles in 24 hours.
	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	
1	29.861	29.914	30.019	39.6	32.6	33.0	S W	S W	S W	78.21
2	30.049	30.225	.261	34.1	40.0	36.1	S W	S W	S W	80.00
3	.126	.049	.050	36.0	42.6	40.2	S W	S W	S W	71.11
4	.000	29.873	29.775	38.3	66.2	45.6	S W	S W	S W	67.29
5	29.561	.599	.610	48.2	52.3	47.2	S W	S W	S W	67.24
6	.611	.672	.701	46.0	47.6	36.0	S W	W by N	W	102.29
7	.445	.212	.211	50.1	29.7	28.0	N E	N E	N by E	114.11
8	.151	.299	.411	25.1	32.0	29.9	W	W	W	247.10
9	.501	.511	.560	26.9	32.0	31.9	W	W	W	211.44
10	.620	.649	.749	29.1	31.0	28.0	W	W	W	104.00
11	.752	.759	.772	21.3	32.0	27.2	W	W	W	97.74
12	.800	.911	.948	26.0	32.0	28.7	W	W	W	101.00
13	30.050	30.062	30.100	25.9	40.0	29.9	W	W	W	99.74
14	.030	29.992	29.990	29.0	29.1	25.6	N E	N E	N E	87.20
15	29.948	.998	30.011	23.1	25.5	23.0	W	W	W	91.00
16	30.801	30.197	.225	20.9	29.9	22.9	N by W	N by W	N by W	157.74
17	29.660	29.510	29.315	24.0	52.1	31.9	N E	N E	N E	97.10
18	.251	.772	.851	28.1	50.2	25.9	W	W	W	211.24
19	30.017	30.001	.952	24.6	32.1	39.0	W	N E	N E	304.10
20	29.550	29.422	.964	33.0	45.6	34.7	E	E	W	91.44
21	.801	.917	30.000	26.2	28.3	24.1	W	W	W	199.20
22	30.201	30.157	.148	12.2	31.3	23.0	W	W	W	89.94
23	29.951	29.996	.021	23.0	26.2	25.2	N E	N E	N E	104.21
24	30.257	30.372	.391	24.0	30.4	22.0	W	N	N by W	65.10
25	.462	.412	.375	11.8	21.9	20.2	W	N by W	W	77.00
26	.311	.247	.191	15.6	22.4	21.7	N E	N E	N E	94.10
27	29.921	29.910	29.850	21.7	24.7	23.0	N E	N E	N E	70.44
28	.961	30.011	30.042	24.2	32.0	26.0	W	W	W	81.11
29	30.060	.042	.000	26.5	32.1	31.9	W	W	W	97.10
30	59.558	29.541	29.575	35.0	38.1	38.4	S W	S W	S W	77.20

REMARKS.

The highest reading of the Barometer was on the 25th, and indicated 30.462 inches; the lowest was on the 8th, and was 29.151, giving a monthly range of 1.311 inches.

The highest temperature was on the 4th, and was 66° 2'; the lowest occurred on the 25th, and was 11° 1', giving a monthly range of 55° 1'. The mean temperature was 30° 25', which is 2° lower than the *Isotherm* for Montreal for the month of November, deduced from a long series of observations.

Rain fell on three days amounting to 0.654 inches. Snow fell on nine days, amounting to 13.96 inches which, added to 6.49 inches which fell in October, gives 20.45 inches, which is a very large amount for the season.

—Meteorological Observations taken at Quebec, during month of November, 1869; Latitude 46° 48' 30" North; Longitude 71° 12' 15" West; Height above St. Lawrence 230 feet,—by Sergt. John Thurling, A. H. C., Quebec.

Barometer, highest reading of, was on the 25th.....	30.225 inches.
“ lowest “ “ 7th.....	28.667
“ range of pressure.....	1.558
“ mean for month (reduced to 32°).....	29.603
Thermometer, highest reading on the 4th.....	53.0 degrees.
“ lowest “ “ 25th.....	7.8
“ range in month.....	45.2
“ mean for month.....	29.1
“ Maximum in Sun's rays, mean of (black bulb.)	44.5
“ Minimum on Grass, mean of.....	23.8
Hygrometer, mean of dry bulb.....	29.3
“ “ wet bulb.....	27.4
“ “ dew point.....	20.6
“ elastic force of vapour.....	.111 inches.
“ vapour in a cubic foot of air.....	1.3 grains.
“ “ required to saturate do.....	0.6
“ mean degree of humidity (Sat. 100).....	68
“ average weight of a cubic foot of air.....	562.0 grains.
Cloud, mean amount of, (0-10).....	8.1
Ozone, “ “.....	2.4
Wind, general direction.....	S.W. and W.
“ mean daily horizontal movement.....	143.2 miles.
Rain, number of days it fell.....	3
“ Amount collected on ground.....	0.27 inches.
Snow, number of days it fell.....	16

ADVERTISEMENTS.

WANTED.

By a young lady accustomed to tuition, and having a Model School Diploma, an engagement as resident Governess, or to take charge of a small school. She is qualified to teach English and the rudiments of French and Music.

Address,

E. B. Post Office, Quebec, or

Journal of Education,

Quebec.

IMPORTANT TO TEACHERS.

JUST PUBLISHED :

THE DRAMATIC READER;

A selection of pieces for practice in ELOCUTION ; with introductory hints on Reading,—

BY JOHN ANDREW,

Instructor in Elocution at McGill College and Normal School, Montreal

PRICE 75 CENTS.

This Selection, has been made with special reference to the practical acquirement of the Art of Elocution. The pieces are mostly new and unhackneyed, and are mainly extracted from the best English Dramatists, as being likely to interest and amuse pupils, while the attention and precision required in reading Dramatic Compositions cause them to be best adapted for practice.

DAWSON BROTHERS,

Great St. James Street,

Montreal

PHRENOLOGY.

OUR ANNUAL SESSION FOR

PROFESSIONAL INSTRUCTION

WILL OPEN JANUARY 4TH, 1870.

For circular containing particulars, address *Phrenological Journal* New York.

THE JOURNAL OF EDUCATION,

FOR THE PROVINCE OF QUEBEC.

The Journal of Education,—published under the direction of the Hon. the Minister of Public Instruction and edited by H. H. MILLS, Esq., LL.D., D.C.L. and P. DELANEY, Esq., of that Department,—offers an advantageous medium for advertising on matters appertaining exclusively to Education or the Arts and Sciences.

TERMS.—Subscription per annum \$1.00; Public School Teachers half price; School-Boards &c., free.

Advertising.—One insertion, 8 lines or less \$1.00, over 8 lines, 10 cents per line; Standing advertisements at reduced charges, according to circumstances, but not less than \$10 per annum.

Public School Teachers advertising for situations, free. School-Boards &c., free.

All communications relating to the *Journal* to be addressed to the Editors.

PRINTED BY EUSEBE SENÉCAL, MONTREAL.

