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## Editorial Notes.

WE are informed by Dr. Hodgins, Vice-President of the Toronto Humane Society, that a convention of members of the Humane Societies in Canada and the United States will be held in Toronto, on the 17th and 18th of this month. The occasion will no doubt be one of interest.

WE are glad to learn since the date of our last issue that the Toronto School Board has placed a copy of the Toronto Humane Society's publication in the hands of every teacher in the city, for use in the schools in the Friday-afternoon exercises. The idea is a good one. Many of the extracts in the work are admirably adapted for these exercises.

THERE is much truth and force in one of the objections urged against the American system of education, by Professor Boyesen in the September *Forum*, that it is calculated to kindle expectations and ambitions which, in the vast majority of cases, must result in future disappointment and unrest. Theoretically it is true that the humblest pupil in the Public School may aspire to become President of the United States. Practically it is the fact that the chances of the average boy to reach that position are one in thirty, or if the constitution makes no distinction in sex, one in sixty millions.

*The Freeman* (London, Eng.) is no less hard than many of its contemporaries, in characterizing the processes and results of the Public School system now in vogue. It says:—

"We are, and should be, slow to judge the teachers now in charge of schools. As scholars they were "crammed" with a view to satisfy inspectors. As pupil teachers they were "crammed" that they might pass examinations. As students in training colleges they were "crammed" that they might earn grants and get certificates. As teachers they "cram" scholars to obtain grants from which their own salaries are partly paid. They are largely victims of a system of "cram." And if from the process they come out what they are, small blame attaches to them."

THE following recipe which we clip from an exchange, may serve as an answer to a question which is frequently asked by correspondents. Our contemporary, whose name we unfortunately forgot to note, says:—

"The preparation has been thoroughly tested, and we can recommend it to those who wish to begin the new year with a first-class board.

Material: one half-gallon shellac-varnish, one paper of the best lampblack, two ounces flour of emory. Mix, using no more lampblack than is needed to give a jet black color. Apply with the finest brush you can obtain, and do not fail to shake the slating while applying. After a half-hour, rub the board over with a crayon held flatwise; dust off with an eraser, and call your class to the board for work."

MAY there not be too much tendency to resort to the same fallacious and unworthy persuasions in the Canadian schools, of which Prof. Boyesen complains in the *American*? Prof. Boyesen truly says, "It is of more importance to impress a child with his duty toward God and man than with God's and man's duty toward him." The characteristic difference between the French and English soldier was once said to be that the Frenchman's watchword was "glory," the Englishman's "duty." There is some reason to fear that the sentiment of "duty" is being too largely superseded in the youthful mind of to-day by the more ignoble idea of self-advancement. To make the most of himself is an obligation which should indeed be impressed upon every one, but the motto should be supplemented by the words, "For God and fellow-men."

THE "State," in England, has no normal school or training college for teachers. According to Whitaker's Almanac, there are in operation thirty-nine training colleges, but all are under private or denominational control. They are classified as follows:—Church of England, 27; Wesleyan, 2; Congregational, 1; British and Foreign School Society, 6; Roman Catholic, 3; total, 39. The "Minority Report" of the Educational Commission calls attention to the fact that "more than seventy-three per cent." of "the yearly certified expenditure" on these colleges "was met by grants from the Committee of Council on Education," and yet "the authorities of each college settle their own terms of admission," and they are managed by private persons, nominated by bodies not responsible to those who find seventy-three per cent of the cost of conducting them. The majority of the Commission report in favor of the continuance of this system. Is it any wonder there was a "Minority Report"?

MANY a truth is spoken in jest, and many a good hint is conveyed in the same way. We do not know what sprinkling of seriousness there may have been in *Grip's* thoughts when he penned the article from which we make an extract in another column, but we are sure that

the teacher who has a keen sense of humor, and knows how to appeal occasionally to that sense in his pupils, has a means of sharpening the intellectual faculties which is wanting in the man who cannot see a joke. We have known a professor to read to a class of students a serio-comic paragraph from the work of a professional humorist, full of cleverly veiled but palpable and astounding contradictions, exaggerations, and other absurdities, only to find at the close that few of his hearers had detected anything extraordinary in the passage. It was, of course, written in a solemn style and read with grave voice and manner. Try the experiment. Or, if you choose, give fair warning, and ask your pupils to note and point out the witticisms, and you will be astonished at the results. An occasional exercise of this kind, as a wit sharpener, will be found a good intellectual tonic in the class-room.

A SHORT article in the *Toronto Mail* a week or two since dwelt suggestively on the excellent educational effect indirectly wrought by the tasteful and picturesque arrangement and decoration of the Toronto Normal School grounds. This influence will be felt by and through every teacher of the least taste or aesthetic susceptibility who visits the institution. An old teacher declared that the Normal school grounds would, before many years, tell on the school grounds of every village, town, and section in Ontario. Up to a few years ago the play-ground and the land adjoining a rural schoolhouse were almost so many graveyards, the impression made on the wayfarer being of the most dismal and uninviting character. A change has lately come over the spirit of trustees and teachers, many of the school grounds being now during the summer months models of neatness. How is it with the surroundings of your school, gentle reader? Has your influence as a missionary of the gospel of taste made itself felt on the School Board and the community, and does it bear fruit in neat and attractive school grounds, which are perennially exerting their refining influence upon both children and parents?

THE following circular has been sent by the Education Department to head masters of High Schools and Collegiate Institutes:—According to paragraph 5 of the Regulations respecting authorized text-books for use in Public and High Schools, (circular 14) it is provided that "All text-books prescribed or required for senior matriculation or for the examinations for the first year in any of the Universities of Ontario may be used in such Forms as take up senior matriculation work." As the senior and junior matriculation classes are generally combined, the same text-books are usually necessary. The Department, therefore, desires it to be understood that the liberty allowed by said paragraph in the case of text-books required for senior matriculation shall hereafter be allowed for junior matriculation with honors. The rule as to the use of unauthorized text-books in

every other subject, class, and form, shall remain as at present. In order that all reasonable facility should be granted to deserving pupils to proceed with the course prescribed for 2nd Class Certificates, Head Masters may allow those who obtained an aggregate of 600 marks at the recent examination on 3rd Class work, (even if they failed in the minimum marks required in each subject), to proceed with the work prescribed for 2nd Class Certificate. All candidates who wrote for 2nd Class and failed may go on with their 2nd Class course.

SOME of the teachers in the employ of the London (Eng.) School Board bitterly complain of the religious teaching they are compelled to give. The *Christian World* says:

"The Board employs inspectors of its own, and these gentlemen are just now making themselves particularly busy in dropping in at schools unexpectedly, with the object of detecting teachers who are not carrying out to order the instructions as to religious teaching. In certain of the schools, we are told, there is just now quite a panic among the teachers, as, rightly or wrongly, the impression has got abroad that the least infringement of the Board's injunctions will lead to dismissal. The teachers complain that they were not trained in order to give religious instruction, and that if the Board's requirements are carried out, all their private time must be occupied in Bible study."

It may seem at first thought that the teachers ought to be better acquainted with their Bibles, but from the sample given of the amount of work required from Standard IV, in which the pupils are about ten years old, it is clear that the teachers have good reason to complain. Even a bare enumeration of the topics prescribed would occupy too much space, and it would seem that if the whole of the work were done there could not be time for much else. The *Christian World* pronounces the requirements "absurdly extravagant," even for willing teachers, as well it may, and adds that "to force unwilling men and women to teach all this, and to hold a rod over their heads while they teach, is intolerable and a folly that directly defeats its own object."

### *Educational Thought.*

Is it not an abominable waste of the time and strength of children to put them to doing in a difficult way, never used in real life, something they will be able to do in an easy way a year or two later? To introduce artificial hardness into the course of training that any human being has to follow is an unpardonable educational sin. There is hardness enough in this world without manufacturing any, particularly for children. On careful search through all the years of the Public School programmes now in use, many places will be found where time might be saved and strain lessened by abandoning the effort to obtain an exaggerated and wholly unnatural accuracy of work. It is one of the worst defects of examinations that they set an artificial value upon accuracy of attainment.—*President Eliot in Atlantic Monthly.*

WHAT do you learn from "Paradise Lost?" Nothing at all. What do you learn from a cookery book? Something new, something that you did not know before, in every paragraph. But would you therefore put the wretched cookery book on a higher level of estimation than the divine poem?

What you owe to Milton is not any *knowledge*, of which a million separate items are but a million of advancing steps on the same earthly level; what you owe is *power*, that is, exercise and expansion to your own latent capacity of sympathy with the infinite, where every pulse and each separate influx is a step upward—a step ascending as upon a Jacob's ladder from earth to mysterious altitudes above the earth. All the steps of knowledge, from first to last carry you further on the same plane, but could never raise you one foot above your ancient level of earth; whereas the very *first* step in power is a flight, is an ascending into another element where earth is forgotten.—*De Quincey.*

THERE is a certain service rendered to religion by science which cannot be passed by. I refer to the fact that science of itself is unable to solve any of the great problems which most interest men, and which form the substance of religion. It is a profound remark of Novalis that "Nature is a kind of illuminated table of the contents of the spirit." The solution, the full explanation of things, cannot be found in this "table of contents" but in the spirit. Science describes only processes, never beginning, nor end, nor why, nor how. It is, as Novalis says, a picture; it cannot explain itself nor anything in it. This self-demonstrated limitation of science is of service to religion, by deepening its sense of responsibility as the real teacher of mankind. Science is of immense help in the search after truth; it opens paths, it smooths the way, it prescribes methods, it arranges facts; but truth itself—the truth of God, of man, of duty, of destiny—this still remains in the hands of religion, and always will remain there.—*Rev. Dr. T. T. Munger, in Forum for September.*

FEW adult minds retain accurately considerable masses of isolated facts, and it is commonly observed that minds which are good at that are seldom the best minds. Why do we try to make children do what we do not try to do ourselves? Instead of mastering one subject before going to another, it is almost invariably wise to go on to a superior subject before the inferior has been mastered,—mastery being a very rare thing. On the mastery theory, how much new reading or thinking should we adults do? Instead of reviewing arithmetic, study algebra; for algebra will illustrate arithmetic, and supply many examples of arithmetical processes. Instead of re-reading a familiar story, read a new one; it will be vastly more interesting, and the common words will all recur,—the common words being by far the most valuable ones. Instead of reviewing the physical geography of North America, study South America. There, too, the pupils will find mountain chains, water-sheds, high plateaux, broad plains, great streams, and isothermal lines. The really profitable time to review a subject is not when we have just finished it, but when we have used it in studying other subjects, and have seen its relations to other subjects, and what it is good for.—*President Eliot in Atlantic Monthly.*

THERE is nothing like a masterpiece of literature on which to sharpen the wits of a dull boy or girl. One of the best School Principals I have ever met, once said to me, "If I had a stupid pupil whom I wished to brighten up, I would do nothing during the first six months but entertain him with interesting reading." People who try to develop reason in a child before developing imagination, begin at the wrong end. A child must imagine a thing before he can reason about it. The child who has had his powers of imagination opened up through *Pilgrim's Progress* is much better fitted to attack "Longitude and Time" or "Relative Pronouns," than the boy who has been kept stupidly at work committing text to memory or reducing common fractions to circulating decimals. The dullest boy in mathematics that I ever knew, the boy who declared he was tired of life because there was so much arithmetic in it, and persistently read Burns and Shakespeare, soon mastered arithmetic when it became necessary in order that he might accept a position as teacher in a High School. People will always learn arithmetic as fast as necessity compels them if they know how to read. I wish I might reverse the order and say that a child brought up on cube and square roots thereby attained the power to master the great thoughts which lie in poetry and science.—*Mary E. Burt.*

## Special Papers.

## A UNIVERSAL LANGUAGE.

BY PROFESSOR F. A. MARCH.

No thought is more firmly fixed in the minds of students of language than that language grows, and that particular laws of language are laws of growth. They do not believe in the power of individuals, however great, to modify the laws of language, and they are apt to despair of effecting even slight changes. They often deplore particular defects; they write papers which point out illogical idioms or blundering and absurd spelling; but usually they close with the reflection that language is a growth, and that we must let it grow.

In this the linguists fall in with other scientists. Evolution, development, is the atmosphere of the science of to-day. In this atmosphere it is absurd to talk of one man making a language; it is doubtful whether one person can make a book of national importance. The "Iliad," the "Odyssey," "Beowulf," "Kalevala," are believed to be growths from old ballads; the Shakespeare folio is too great to have been written by Shakespeare.

A universal language must be a growth. Some national language must expand until it covers the whole world. Of late years the English language alone has been much spoken of as likely to grow so great. Hardly any philosophic linguist attempts to forecast the future without some discussion of the destiny of English; and De Candolle calculates that within a hundred years English will be spoken by 860,000,000 men, German by 124,000,000, and French by 96,000,000. At present the populations either speaking the English language or under the domination of English-speaking peoples number more than 318,298,000, or one-fourth of the population of the globe. The English-speaking races occupy one-fourth of the dry land of the earth, and own nearly two-thirds of the tonnage of the ships. They live in all regions; they handle all articles of trade; they preach to all nations; they command one-half of the world's gold and silver, and distribute more than two-thirds of the Bibles and Testaments. More than one-half of the letters mailed and carried by the postal service of the world are written, mailed, and read by the English-speaking populations. The expectation that English will come into universal use is not based upon anything in the nature of the language, but rather on the character and circumstances of the people. The English people have been the great colonizers of modern times. They have taken possession of America, of Australia, of South Africa, the regions which are to be the seats of new empires, and they control and assimilate the populations which flow into them and which grow up in them.

All the modern languages of civilized nations have grown up under influences which have led to differentiation of the meaning of words, to extension of vocabulary, and to compression and simplicity in the forms of words. The older inflected languages express an object and its relations in a single word. One or two of the syllables describe the object, the prefixes and suffixes suggest various relations in an indefinite fashion. *Mōna*, *mōnan*, *mōnum*, *mōnena*, are Anglo Saxon forms of the same word. The first syllable, *mōn*, means measurer, and described the moon. The other syllables mean, in a vague and indefinite way, all sorts of relations in space, time, power, and thought which the moon can be imagined to have. But the discriminating intellect, working from the vague to the definite, analyzing, scrutinizing, is continually adopting separate words to express more clearly and emphatically each common relation, adopting prepositions to express each kind of relation between actions and objects, auxiliary verbs to express relations of tense and mode, and pronouns for personal relations.

But after the prepositions are established the case endings become superfluous; when the pronouns are used pronominal endings are tautological. These endings are, therefore, dropped; the languages thus change from what are called synthetic languages to analytic languages. Collisions and mixture of races promote this process. The English language is the most perfect illustration of it. It begins its historic career as

the literary language of the Teutonic tribes of Britain, a mixed nation of Angles, Saxons, and Jutes. We find, by comparing with Gothic and Old High German, that it had already lost a large part of its inflection endings. A collision and mixture with the Danes followed, and then the Norman Conquest. This was the most important event in linguistic history. It brought together picked men of the two great modern stocks, the Germanic and Romanic, under the most favorable circumstances for the development of language. They lived together for a century without much mixture of speech. The Normans did not try to learn English with care; they picked up a little of it for practical needs. They knew nothing and cared nothing about being correct. It was condescension to try to make themselves understand. They never learned the case endings. Why should they take pains to get *mōna*, *mōnum*, *mōnan*, *mōnena*, all right? *Mōne*, moon, was enough for them. The Anglo-Saxons fell into the same neglectful habits. There had been five declensions of the noun, with from three to five cases distinguished in each number, and hosts of irregular forms. Of all these forms only one was like the Normans, the plural in *s*. That they understood, and that has survived. The genitive in *s* has also survived. So far as prepositions have come into use to express the relations of the case endings, the substitution is a differentiation, a more exact expression of the thought.

The greatest gain to the language in this dropping of inflections is the simplification. There were five ways of expressing the genitive case in regular declension, besides irregular ways. The verb was worse than the noun. In the French verb there are now 2,265 terminations which must be learned by heart, 310 regular, 1,755 irregular, 200 for the auxiliaries; and all these must be connected in memory with their proper verbs. To simplify all this, to have but one set of terminations for all verbs, is an inestimable gain. A large approach to it was made in English by the collision of Saxons and Normans. The same want of attention in the Normans led to the dropping of the signs for gender, which had accompanied every noun and adjective in Anglo-Saxon. This distinction of gender is not really helpful to thought in any way once in a thousand times, and is a grievous burden to the memory. It takes more time to learn the grammatical gender of the words than it does to learn their meaning.

The same general reason led to a great abbreviation of words. Just as children catch at first the accented sounds in words, so these careless strangers were content with English sound enough to be understood. The Anglo-Saxons called the heads of the family and of the table *hlofordas*, loaf keepers, but the Normans called them "lords," neither knowing nor caring what the word meant; so they called *heafod* "hed," head, and *hafoc* "hawk." This compression, this monosyllabic habit, suited the Anglo-Saxons well. They had used it freely upon the words from Latin and Greek which they caught-up from the priests. *Presbyter* is *preost*, the first time it appears in Anglo-Saxon; *episcopus* is *bissep*; *kyriake* is *circe*, church; *eleemosyna* is *almes*, alms. Now they began to take up Norman words freely in the same way. They took up pretty much all that are worth having, doubling the number of their descriptive words; and our language has ever since been gathering freely from Latin, Greek, and the languages of all nations with whom our people come in contact. There are perhaps 20,000 words of Anglo-Saxon origin in our present English; we have 250,000 words in all. There is also a condensation of idiom. Direct and compact phrases and sentences are gathered and remembered and make part of the wealth of the language.

Such is the process of growth which the students of language look for in the universal language. Our present English is a type of it. Jacob Grimm, one of the most profound historians of language, and an enthusiastic lover of his native German, says:

"The English speech may with full right be called a world-language. It will go on with the people who speak it, prevailing more and more to all the ends of the earth. In richness, reason, and compression no living speech can be put beside it; not even our own German, which is torn, even as

we are torn, and must first rid itself of many defects before it can enter boldly into the lists as a competitor with English."

Carrying out these laws of change, the English of the future will be completely simplified in its inflections. The relics of Anglo-Saxon declension will be made regular, the plurals "oxen," "mice," "men," and so forth, will pass away. Generations of children will be allowed to grow up saying "foots" and "mouses" and "mans." The irregular verbs will all fall into line, as they have been doing one after another since a time beyond which memory runs not back. The newspapers try in vain to force new irregularities upon the language, like "proven" for "proved." The condensation of the old words will be carried out regularly in the written as well as the spoken words: we shall write "tho" (though), "tung" (tongue), "tizic" (phthisic), "catalog," "thru" (through), and the like. We shall accept more thousands of words from Japan, China, Africa, and elsewhere. We shall pick up and invent thousands more of compact phrases and idioms.

This process may go on gradually with the advice and consent of the cultured class. There may also be new collision and mixture of nations comparable to those of the Saxons and Normans, and producing new vulgar dialects which may afterwards rise to greatness. Such a dialect has in fact already arisen in eastern Asia—business English or Pigeon English. It is usually described as a grotesque or absurd jargon of English used in the cities of China in dealings of foreign merchants with the Chinese, "a ridiculous and silly expedient." It is not printed, but is taught in Chinese schools. Some students of language, however, have taken it more seriously, and claim for it the honors of the coming universal language. Mr. Simpson has done so in an article in "Macmillan's Magazine," November, 1873, and Professor Sayce seems to agree with him in his "Introduction to the Science of Language." In absence of inflections, and general condensation it answers well, but it has a very limited vocabulary, and in that respect belongs rather to shop or technical dialect than to folk-speech proper; for it should be noticed that the views of growth which have been before stated apply to language proper, to standard folk-speech, and not to technical scientific language, or the peculiar vocabularies of arts or shops. These last are made or modified freely by agreement among the specialists concerned. The botanists, for example, have a regular system for naming and describing plants. The system is the result of laborious study and wide discussion. The privilege is given to a finder of a plant who is able to name and describe it according to the system, that his namings shall be accepted. So he who discovers a planet may name it, if he will select a name according to the system adopted by the astronomers. The chemists not only have an elaborate scientific language, but a system of writing in it by single letters representing words, and by signs of relation, so that a train of reasoning in chemistry looks something like an algebraic demonstration. Algebra and other branches of mathematics have their special languages, spoken and written. In all these modern scientific languages the object aimed at is the expression of fact, of truth. Objects are named by their essential qualities, and sets of names are systematically framed to indicate by their forms the scientific relations. The great advances of modern thought are rendered possible by the advances in scientific terminology. No one could grasp and handle the facts and relations of mathematics or chemistry or other great modern sciences, if they were written out in popular language.

Language proper, which grows, is the means of communicating the whole man, his needs, his wishes, his joys and sorrows, loves and hates, hopes and fears, passions and thoughts. Objects are named from the way they affect us, not from their essential qualities. Then genius shapes the words to beauty; the poet, the orator, arouse to heroic acts or record heroic achievements in language in which sound and sense have been fused. They add the powers of music to those of sensible signs and of the natural language of the emotions, and produce idiomatic combinations reflecting and expressing with strange perfection the most complex and subtle states of mind and heart. It

requires many generations of great speakers to originate the idioms of a speech like English, and they can be mastered only by wide acquaintance with its literature. What could be made of Shakespeare by looking out in a dictionary the meaning of the words he uses. It fact very few persons do fully respond to the language of Shakespeare and know all its meaning and beauty. Many great philosophers do not; they get more from a book of mathematics or chemistry. Several noteworthy attempts have been made to produce a general language of the same type as the language of mathematics, or chemistry, or botany. That is to say, the attempt is made to give to all the objects of our thought names which express their essential qualities, to classify them and express their relations to each other by their forms, and to make words expressive of all possible relations. Bishop Wilkins, one of the founders of the Royal Society of London, presented to that body an essay of this sort, which was published by the society in 1668, in a handsome folio. It contains not only a language such as has been just described, but also a real character for writing it, the letters of which are taken from pictures of the organs of speech while uttering them, reminding one of Mr. Bell's visible speech. This book most likely suggested to Leibnitz the practicability of a universal scientific language. He several times speaks of it, and seems to have seriously contemplated undertaking it. Such a language would be a universal language, much as the arabic figures are, or mathematical signs.

Other attempts at a universal language for correspondence and business purposes have been made. (Here follows a history and description of Volapük.)

\* \* \* \* \*

It would be easy to prepare a commercial vocabulary selected from English words now current, spelled according to a simple and reasonable system, and with the verbs and nouns made uniform in their inflection. This would make a universal commercial language, intelligible at once to the ninety millions of English-speaking people all over the world, and fifty times more easy for other peoples to learn than Volapük is at present. The difficulty of introducing such a speech is national jealousy. If Volapük can overcome this, it may well spread. If it does spread it will, of course, be much modified, and almost certainly will slough off a large part of its inflectional apparatus. It will be watched with the highest interest by all linguistic scholars. It is impossible that any artificial language should be worked out and established in use in our day without making most important additions to the knowledge, the resources, and the powers of the race.—*The Forum*

### Teachers' Miscellany.

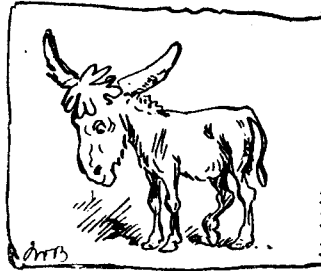
#### HUMOR IN THE SCHOOL-ROOM.

SUGGESTION TO THE COMPILER OF OUR NEXT SERIES OF SCHOOL BOOKS.

THE idea has of late years gained ground among educationists that reading-lessons, instead of being prepared solely with the object of teaching the young to read, should be made the means of inculcating sound views on a variety of questions. Thus, we have now readings on temperance, sanitary reform, forestry, etc.—calculated to impregnate the youthful mind with principles which will, as it were, blossom and eventually fructify in accordance with those great—just so—exactly—you get the idea, don't you? Well, now, what's the matter with making an equally obvious improvement by working in a few easy lessons of a humorous character interspersed with suitable jokes, with the object of sharpening the perceptive faculties of the pupils and developing their sense of humor. *Grip* is perfectly disinterested in making this suggestion. At first sight it might seem as though we had a selfish end in view, but a little reflection will dissipate such an impression. One of the first and most obvious results of a considerable development of the humorous faculty among the rising generation, will be to vastly increase the number of those whose ambition is to run a comic paper. We shall have a host of would-be rivals and captious critics hanging on the ragged edge of humorous journalism, and attempting to "merit a share of public

patronage." Nevertheless, unswayed by sordid considerations, let us give a specimen or two of the kind of juvenile literature which might awake latent paronomasiac talent in the adolescent intellect. Let us begin with

#### THE MULE.



This is a mule. Will he kick? Yes, he'll kick.\* He is a kicker from way-back. The best way to twist a mule's tail is to get some other boy to do it. Mules have long ears. Let us go round to the front of him to get an ear view. As a Scotchman once said, there is something "awfu' eerie" about a mule. Is a mule any good to ride? Oh yes, nearly as good as a toboggan or a roller-coaster—but the ride don't last quite so long. It is sometimes hard to get on a mule's back, but then it is very easy to get off. The mule is soon tired. But he is not nearly as tired as the man who rides him. The mule is beginning to scratch his north ear with his left foot. Let us go away.

Do not fool  
With the mule.

\* \* \* \* \*

We have no doubt that the project thus imperfectly sketched will commend itself to the Educational Department, and that the next series of authorized readers will have a few easy jokes adapted to the youthful mind scattered here and there among their more serious contents. The habit of appreciating humor must be cultivated from the cradle if we are to have a full-orbed manhood.—*From Grip, Sept. 15.*

#### THE OLD SCHOOLMASTER.

A STORY OF SCHOOL.

THE red light shone through the open door  
From the round, declining sun,  
And fantastic shadows all about  
On the dusty floor were thrown,  
As the factory clock told the hour of five,  
And the school was almost done.

The mingled hum of the busy town  
Rose faint from the lower plain;  
And we saw the steeple over the trees,  
With its motionless, golden vane;  
And heard the cattle's musical low,  
And the rustle of standing grain.

In the open casement a lingering bee  
Murmured a drowsy tune;  
And from the upland meadows, a song  
In the lulls of the afternoon  
Had come on the air that wandered by,  
Laden with scents of June.

Our tasks were finished and lessons said,  
And we sat, all hushed and still,  
Listening to catch the purl of the brook,  
And the whir of the distant mill;  
And waiting the nod of dismissal, that yet  
Waited the master's will.

The master was old and his form was bent,  
And scattered and white his hair,  
But his heart was young, and there ever dwelt  
A calm and kindly air,  
Like a halo over a pictured saint,  
On his face marked deep with care.

His eyes were closed, and his wrinkled hands  
Were folded over his vest,  
As wearily back in his old arm-chair  
He reclined as if to rest;  
And the golden streaming sunlight fell  
On his brow and down his breast.

We waited in reverend silence long,  
And silence the master kept,  
Though still the accustomed saintly smile  
Over his features crept,

\*The teacher will here explain that the joke is on the heel.

And we thought that, worn with the lengthened  
toil

Of the summer's day, he slept.

So we gently rose and left our seats,  
And outward into the sun  
From the gathering shades of the dusty room,  
Stole gently, one by one;  
For we knew by the distant striking clock,  
It was time the school was done,

And left the master sleeping alone,  
Alone in his high-back chair,  
With his eyelids closed, and his withered palms  
Folded as if in prayer,  
And the mingled light and smile on his face,  
And we knew not death was there.

Not knowing that, just as the clock struck five,  
His kindly soul away  
A shadow messenger silently bore  
From its trembling house of clay,  
To be a child with the saints in heaven,  
And dwell with Christ away!

—*The New York Teacher.*

### Book Reviews, Notices, Etc.

*Synonyms and Antonyms.* A complete dictionary of synonyms and words of opposite meanings, with an appendix of Briticisms, Americanisms, Colloquialisms, Homonyms, Homophonous words, Foreign Phrases, etc., etc., by Rt. Rev. Samuel Fallows, A.M., D.D. 512 pp., cloth, \$1.00. Fleming H. Revell, publisher, Chicago and New York; Williamson & Co., 5 King street west, Toronto.

Do you often get caught for a word—you can't get the word you want, something about the same meaning is in your mind, but you know there ought to be and is a more expressive word if you could think of it. You'll find it here.

*Selections from Ruskin* (on Reading and Other Subjects), by Edwin Ginn, with notes and a sketch of Ruskin's life, by D. H. M.

This is the latest addition to the excellent series of "Classics for Children," published by Ginn & Company, Boston.

*Talks on Psychology Applied to Teaching.* For Teachers and Normal Institutes. By A. L. Welch, LL.D., ex-President of Iowa Agricultural College. New York and Chicago: E. L. Kellogg & Co. 50 cents.

This little book of 136 pages aims solely to help the teacher in the active work of the school-room. Most works on mental science simply propose to aid in getting some knowledge of mental science as a science, and do not aim at practical teaching. This aims to show what mental efforts are made by the learner in learning, and how these efforts educate him.

*Lamartine: Selected Poems from Premiers at Nouvelles Méditations.* Edited with biographical sketch and notes by George O. Curme, A.M., Professor of German and French, Cornell College, Mt. Vernon, Iowa. Boston: D. C. Heath & Co., publishers.

The editor says in his preface: "I have lovingly gone over every line and have tried in the notes to bring out clearly to the searching student the thought, the feeling, and the image of the poet when there seemed to be difficulties in the way."

We have received also the following:—

*Colloquia Latina.* Adapted to the beginners' books of Jones, Leighton, and Collar and Daniell. By Benjamin L. D'Ooge, M.A., Professor of Latin and Greek, Michigan State Normal School. Boston: D. C. Heath & Co. publishers. 1888.

*Caesar, De Bello Civili.* By H. Awdry, M.A., Assistant Master at Wellington College. With maps and plans. Rivingtons, Waterloo Place, London. 1888.

*Xenophon, Anabasis.* Book II. Edited for the use of schools, with introduction, notes and vocabulary. By A. S. Walpole, M.A., Assistant Master in Rossall School. This belongs to the series of "Elementary Classics," in course of publication by Macmillan & Co., London and New York. 1888.

## Music Department.

(All communications for this department may, until further notice, be addressed to A. T. Cringan, care of THE EDUCATIONAL JOURNAL.)

### MUSIC.

THE question of music-teaching in the public schools has long been subject for discussion among teachers and boards of education. Various attempts have been made to popularise the study of music; patent systems and notations have been invented without number. One by one these have been adopted, great expectations have been raised, but in the majority of cases have finally been given up in despair. We are frequently met by the assertion that music is an easy subject to teach, and anyone can teach it who will only try; still, if we are to judge by results, it has not been found quite so easy as teachers have been led to believe. The lack of success cannot be accounted for by any lack of earnest effort on the part of teachers; on the contrary, we believe there is scarcely a teacher in the Dominion who has not tried in some way to introduce and teach music in the school-room. The main cause of this want of success is that in the majority of instances, teachers have been attempting to teach *notation* instead of *music*, and have not approached the subject in the same philosophical manner as other subjects on the curriculum. When divested of the complications of notation, music will be found, not only an easy subject, but one of the most *pleasant* and *cheerful* to teach. When properly taught, music will be found to give pleasure and amusement to the pupils, and will take rank as a most important means of securing a symmetrical development of mind and character.

The problem of success has been solved by the teachers of England, and now there is no country in the world where such results are obtained as are to be witnessed in her public schools. A few years ago English teachers were no better prepared for the work than others, and when Government caused music to be made a compulsory study, there was no little consternation in their ranks. A petition, signed by leading musicians and educators, was presented to the Minister of Education, requesting that teachers be allowed to use any system of notation, making results, alone, the test at examinations. After considerable opposition the petition was granted, and teachers naturally investigated the various systems in order to adopt that best qualified to gain the highest results in the short time allowed for teaching the subject. The Tonic-Sol-fa system was adopted by the majority, and since then has steadily increased in popularity, until now about ninety per cent. of the schools which earn the Government grant for music, are taught by this system.

The reasons for its success are not difficult to understand. It was invented by a teacher, for teachers, and since its inception has been improved and simplified by practical teachers. In it, the *thing*—music—is made of primary importance, and in no case is there more than one sign given for one thing, and no sign has a double signification. The mind of the pupil is trained to *think* musical sounds from the first lesson, and the ear is also taught to recognize those sounds in any key.

In the present series of articles no attempt will be made to teach theory of music, but practical suggestions on how to teach, with examples of lessons which have actually been given, will form the principal feature of our music column.

We do not predict that every teacher will become a successful teacher of music, but we feel assured that every one who conscientiously follows the instructions given will be enabled to secure results which before were considered almost impossible of attainment. At first some will approach the subject with fear and trembling, but this will gradually give place to confidence and delight, as the interest of pupils and teacher develops with every fresh step that is taken. It is hoped that every teacher will make the attempt to teach music. Do not be deterred by the thought that you are not a singer. Teachers do not say, "I cannot teach reading for I am not an elocutionist"; "I cannot teach drawing for I am not an artist"; or "I cannot teach penmanship for I am not a fine writer"; no more necessity have you to say I can-

not teach music for I am not a singer. If you can sing the tones of the tonic chord, *doh me soh* and can distinguish one from the other you are ready for the first lesson. If you cannot do so, try and get some friend to teach you; and practice singing those three tones during spare moments, so that you may be prepared for the study of our first practical lesson which will appear in our next issue. We know of many instances of teachers securing excellent results by simply keeping *one lesson* in advance of their pupils, and we will try and keep you ahead in like manner.

### QUERIES.

J. C. C.—Where can I get modulators same as were used at the recent session of Toronto Summer School of Music? **ANS.** Order through your bookseller from Canada Publishing Co., (see advt).

J. B. MACK.—Does the tonic-sol-fa system teach voice training or how to prevent pupils singing coarsely? **ANS.** Full instructions in voice-training for classes will be given in a subsequent article. Meanwhile, compel your pupils to sing *softly*, with mouths well opened. Do not allow shouting on any account.

T. WILLIAMS.—Has the tonic-sol-fa system been adopted to any extent in Canada? **ANS.** The system has been adopted by the school boards of Toronto, Montreal, Hamilton, St. Thomas, London, Stratford, Ingersoll, and many others.

## For Friday Afternoon.

### TALE OF A DOG AND A BEE.

GREAT big dog,  
Head upon his toes;  
Tiny little bee  
Settles on his nose.

Great big dog  
Thinks it is a fly,  
Never says a word,  
Winks mighty sly.

Tiny little bee  
Tickles dog's nose—  
Thinks like as not  
'Tis a blooming rose.

Dog smiles a smile,  
Winks his other eye,  
Chuckles to himself  
How he'll catch a fly.

Then he makes a snap,  
Mighty quick and spry,  
Gets the little bee,  
But doesn't catch the fly.

Tiny little bee,  
Alive and looking well,  
Great big dog,  
Mostly gone to swell.

### MORAL.

Dear friends and brothers all,  
Don't be too fast and free,  
And when you catch a fly  
Be sure it ain't a bee.

### WHEN THE COWS COME HOME.

With kingle, klangle, klingle,  
'Way down the dusty dingle,  
The cows are coming home;  
Now sweet and clear, and faint and low,  
The airy tingles come and go,  
Like chimings from some far-off tower,  
Or patterings of an April shower  
That makes the daisies grow;  
Ko-ling, ko-lang,  
Ko-ling, ko-lang, kolanglelingle  
'Way down the darkening dingle  
The cows come slowly home;  
And old-time friends, and twilight plays,  
And starry nights, and sunny days,  
Come trooping up the misty ways,  
When the cows come home.

With jingle, jangle, jingle,  
Soft tones that sweetly mingle,  
The cows are coming home;  
Malvine, and Pearl, and Florimel,  
De Kamp, Redrose, and Gretchen Schell,  
Queen Bess, and Sylph, and Spangled Sue—  
Across the fields I hear her loo-oo,  
And clang her silver bell;  
Go-ling, go-lang,  
Go-ling, go-lang, golanglelingle,  
With faint far sounds that mingle,  
The cows come slowly home;  
And mother-songs of long-gone years,  
And baby joys and childish tears,  
And youthful hopes, and youthful fears,  
When the cows come home.

With ringle, rangle, ringle,  
By twos and threes and single,  
The cows are coming home;  
Through violet air we see the town,  
And the summer sun a-slipping down;  
The maple in the hazy glade  
Throws down the path a longer shade,  
And the hills are growing brown;  
To-ring to-rang,  
To-ring, to-rang, tolinglelingle,  
By threes and fours and single  
The cows come slowly home;  
The same sweet sound of wordless psalm,  
The same sweet June-day rest and calm,  
The same sweet scent of bud and balm,  
When the cows come home.

With tinkle, tankle, tinkle,  
Through fern and periwinkle,  
The cows are coming home;  
A-loitering in the checkered stream,  
Where the sun-rays glance and gleam,  
Clarine, Peachbloom, and Phœbe Phyllis,  
Stand knee-deep in the creamy lilies  
In a drowsy dream;  
To-link, to-lank,  
To-link, to-lank, tolinklelinkle.  
O'er banks with butter-cups a-twinkle  
The cows come slowly home,  
And up through Memory's deep ravine  
Come the brook's old song and its old-time sheen,  
And the crescent of the silver queen,  
When the cows come home.

With klingle, klangle, klingle,  
With loo-oo, and moo-oo, and jingle,  
The cows are coming home;  
And over there on Merlin Hill  
Here the plaintive cry of the Whip-poor-will:  
The dewdrops lie on the tangled vines,  
And over the poplars Venus shines,  
And over the silent mill;  
Ko-ling, ko-lang,  
Ko-ling, ko-lang, kolanglelingle,  
With ting-a-ling and jingle  
The cows come slowly home;  
Let down the bars; let in the train  
Of long-gone songs, and flowers, and rain,  
For dear old times come back again  
When the cows come home.

—Mrs. Agnes E. Mitchell.

### MEMORY GEMS.

FAIR words butter no parsnips.  
PATIENCE is a plaster for all sores.  
To forget a wrong is the best revenge.  
A CONTENTED mind is a continual feast.—*Ex.*  
A LIE stands upon one leg, but truth upon two.  
WIT is folly, unless a wise man hath the keeping of it.  
WHEN a man talks much, believe but half what he says.  
INDUSTRY is fortune's right hand and frugality her left.  
MAKE much of the pence, or you'll ne'er be worth a groat.  
WHEN, then, will men give their thought to infamy! We watch the seed which we confide to the earth, but we do not concern ourselves with the human soil till the sun of youth has set.—*Horace Mann.*

## Mathematics.

All communications intended for this column should be sent before the 20th of each month to C. Clarkson, B.A., Seaforth, Ont.

THE greater part of our circle of friends and contributors spend a considerable portion of the working time in teaching elementary arithmetic, and our correspondence shows that the arithmetical portion of this column excites lively interest. Though it is almost impossible to advance anything strikingly original on this subject, either as regards matter or methods, perhaps it may prove useful to repeat from time to time a few important points that have been thoroughly established. Now look at the *Multiplication Table*, for example, and consider how much our method of teaching it is still under the dominion of hereditary prejudice. Do we generally practise any better method of teaching it than our great-great-grandfathers did beyond the sea in the eighteenth century? Is it not still chiefly taught as a piece of dead memory work?—if it is not profanation to call “*hearing lessons*,” by the sacred name of teaching. When a child used to spend a year in learning the alphabet, and another half year in spelling “*a-b ab; e-b eb; i-b ib, etc.*,” the teacher was not expected to do more than “*hear the tables*.” But the inductive and constructive method of teaching has made great advances since 1788, and in the higher parts of arithmetic this method is skilfully and thoroughly applied. Why should we continue an exploded method with the tables of addition and multiplication which lie at the very basis of arithmetic? If skilful teaching is required anywhere it is here at the threshold of the science. Multiplication is only contracted addition, and the multiplication table ought to be developed out of the addition table and constructed by the pupil for himself while he is learning to add. Great interest and even enthusiasm result from setting the pupil to construct the table for himself, especially if this is done by means of objects and pictures and easy practical problems. Measurements with the rule, the tape-line, and the weighing scales ought to be constantly employed as practical exercises in elementary arithmetic, and in this way it is quite possible for children to know these dull tables thoroughly *through their fingers* without ever having seen them in print.

At any rate, even if they are learned from the printed page, and by the brute force of memory, is there any reason in printing the whole table together in one confusing mass of figures? Why do we attempt to teach twelve things at once, when the mind can only think one thought, and learn one idea at once? Would it not be much better to print a set of easy problems on a page, leading the pupil to construct one column of the table, and then place that column at the bottom of the page for memorizing? It would of course take twelve pages to set out the ordinary multiplication table, but what is that compared with the saving of time and the economy of “*the mighty ten years*,” as Mr. Thring forcibly calls the average school period from five to fifteen?

Then, again, why should we stop at twelve times twelve? Experience soon teaches business men and mathematicians the absolute necessity of knowing the table up to sixteen or twenty times at the very least. Five minutes twice a week will carry the pupils of the third class to the end of sixteen times in a single term. It is equally easy to push the table on to twenty-five times twenty-five in the fourth class. As a preparation for the duties of after-life in the bank or the office or on the farm, what other piece of information acquired in the same time will prove equally convenient and serviceable to the possessor? We shall be glad to hear what our readers think about these questions.

Answers to problems in the September issue, page 122.

1. By J. B. REYNOLDS, Enfield, Ont.

The customer received  $(14\frac{7}{8} \div 16)$  of what he paid for; therefore, the grocer owes him  $(1\frac{9}{16} \div 16)$  of \$73.92 = \$7.21 $\frac{1}{2}$ . ANS.

2. By the EDITOR.

wheat = silk + whole com.

or \$2,400 = silk + \$500;  $\therefore$  silk cost \$1,900.

$\therefore$  2nd com. at 4% = \$76;  $\therefore$  1st com. = 500 - 76 = 424.

Thus \$424 was the com. on \$2,400, or rate % =  $\frac{1}{5}$  of 424 = 17 $\frac{3}{4}$ %.

Also solved elegantly by MR. REYNOLDS.

3. By MR. REYNOLDS.

Nineteen minutes elapse between firing of the first and the twentieth gun. But in consequence of his motion the person hears the report of the last gun in 18' 45"; i.e. 15" sooner than he would have heard it had he stood still during the firing of the shots. Now he was travelling 19' at 10 miles per hour = 3 $\frac{1}{4}$  miles, therefore sound travels 3 $\frac{1}{4}$  miles in 15", or 1114 $\frac{1}{2}$  feet per second.

N.B.—Did the person travel 19' or only 18' 45"? Will our correspondent please examine into this point?

4. By FRANK C. WHITELOCK, Richview, Ont.

Park = 500 acres = 2,420,000 square yds.

= two square plots of 1,210,000 sq. yds. each.

$\therefore$  side of one plot = 1100 yds. = width of park,  $\therefore$  length = 2200 yds.

$\therefore$  perimeter of park = 6600 yds.  $\therefore$  length of road = 6600 yds. - 4 times width of road, which is found at the corners:  $\therefore$  area of the road = 6600  $\times$  width - 4 (width)<sup>2</sup> = 32900 sq. yds.  
i.e. (width)<sup>2</sup> - 1650 width + 8225 = 0  
or (width - 5) (width - 1645) = 0  
 $\therefore$  width = 5 yds., or 1645 yds.

N.B.—MR. REYNOLDS writes  $x$  for the width, and takes 160 sq. yds. = 1 ac., which gives a neat form to the solution. The question seems to be somewhat beyond pure arithmetic, as it involves an affected quadratic equation. Will someone kindly see whether the second root, 1645, has any meaning, or whether the problem could be changed so as to give it a meaning. Mr. Smith has some remarks on this question. See Algebra, page 172, *et seq.*

5. By J. B. R.

Let A B C be the triangle, and A P its perpendicular; let D E drawn parallel to the base cut A P in Q, so that A Q is the perp. of the triangle A D E, and P Q is the reqd. distance. Now the triangles are similar,  $\therefore$  Euc. VI., 19.

ABC : ADE = AP<sup>2</sup> : AQ<sup>2</sup>  
or, 2 : 1 = 60<sup>2</sup> : AQ<sup>2</sup>;  $\therefore$  AQ =  $\sqrt{1800}$  = 42.42 +  
 $\therefore$  PQ = 60 - 42.42 = 17.58 feet, nearly.

6. By the EDITOR.

“Parallel straight lines are such as do not meet, etc.” This is perfectly true, but as a *definition* of parallel lines it errs by including many lines that are not parallel in the sense intended in geometry. For example, one diagonal of a cube never meets some of the edges no matter how far produced, because they lie in different planes. Parallel lines are in the same plane.

7. By J. B. R.

The data commit *felo de se*.

65 bush., at 12c. more per bush. = \$7.80 more, which is incompatible with the statement of the problem that he received \$4.20 more.

8. By J. B. R.

1 $\frac{1}{2}$  hens lay 1 $\frac{1}{2}$  eggs in 1 $\frac{1}{2}$  days

$\therefore$  1 $\frac{1}{2}$  hens lay 1 egg in 1 day

or 6 hens lay 28 eggs in 7 days.

N.B.—This question is *practically* absurd, since the number of hens and the number of eggs must necessarily be *integers*.

NOTE.—(a) We have requests for solutions to the July Entrance Arithmetic. We shall be glad to publish full solutions if our friends will take the trouble to send them in.

(b) A correspondent asks whether (2 lbs., 14 oz., 6 drs.) + (3 lbs., 7 oz., 12 drs) would not be *compound* addition according to the *Public Sch. Arith.*? The Editor has not seen this book. It would be in the line of this column, for some experienced teacher to give a short review of this text-book about which we often hear serious complaints from correspondents and at conventions. What was the reason for withdrawing authorisation from Kirkland and Scott's elementary book? Is this book an improvement or not? The teachers of Ontario certainly know, and if they care to express their opinions the matter is one of considerable personal interest to them and their pupils. The “one book” doctrine is worthy of discussion and ventilation. If it is correct it deserves support and commendation; if it is an educational mistake, no one need speak of it with bated breath in the atmosphere of our free institutions.

(c) MR. LINTON regards ELGIN's solutions to his “problem as entirely inaccurate.” We think Mr. L's criticism is well founded. A little investigation will show that ELGIN has calculated on the basis of *simple* interest. For example in Solution 2 he assumes that 4 years' int. on \$2,040 = 1 year's int. on \$8,160. This is true of *simple* but quite untrue of *compound* interest. All the writers on annuities, etc., demonstrate the fallacy of taking simple interest in such cases. Now will some of our correspondents solve the question on the basis of *compound* interest. We purposely inserted these solutions, to emphasize the point at issue. The correct method is to equate the sum of the present worths of all the payments with the cash paid; or equate the amount of the cash payment at the end with the sum of the amounts of all the payments—which comes to the same thing. Compound interest *must* be taken in all such cases. See Todhunter's Alg.,  $\int$  591; Potts' Alg.,  $\int$  x. p. 10, etc. The common arithmetical rule for Equation of Payment<sup>s</sup> involves a similar fallacy and is only approximately correct.

(d) R. M. WHITE, Mt. Wolfe, sends the following problems for solution:—

1. A and B invest capital in the proportion of 3 $\frac{1}{2}$  to 4. After 5 months A withdraws  $\frac{1}{2}$  of his capital and B withdraws  $\frac{1}{3}$  of his. At the end of the year they have gained \$7,090. Find each man's share.

2. A man can borrow money at 6% and pay cash for goods obtaining 2% discount, or he may pay for the goods in 2 months. What will be the most advantageous course and how much will he gain by it on an invoice of goods amounting to \$1,500.

3. A merchant sold two suits of clothes for \$72. On one he gained 20%, on the other he lost 20%. Did he gain or lose? How much? How much %?

1. Prove that  $a^3 + b^3 + c^3 - 3abc$ .

$(a + b + c)(a + bx + cx^2)(a + bx^2 + cx)$ , where  $x = \frac{1}{2}(-1 + \sqrt{-3})$ .

See April. No. 16.

SOLUTION.—Consider the equation  $x^3 = 1$ , i.e.  $x^3 - 1 = 0$ . Factoring,  $(x - 1)(x^2 + x + 1) = 0$ , which is satisfied by  $x - 1 = 0$ , or by  $x^2 + x + 1 = 0$ ; that is by

$x_1 = 1$ ,  $x_2 = \frac{1}{2}(-1 + \sqrt{-3})$ , or  $x_3 = \frac{1}{2}(-1 - \sqrt{-3})$

Among these three cube roots of unity there are some peculiar relations that are exceedingly fertile in remarkable results.

(a)  $x_1^3 = x_2^3 = x_3^3 = 1$ , as may easily be verified by expansion.

(b)  $x_1 + x_2 + x_3 = 0$

(c)  $x_1 - x_2 - x_3 = 1$ ; i.e.  $x_2 - x_3 = 1$ , since  $x_1 = 1$

(d)  $x_2^2 = x_3$ .

(e)  $x^2 = x^{-2}$ . This little piece of theory is of great service in many questions in factoring. In the present instance, we know that  $a^3 + b^3 + c^3 - 3abc = (a + b + c)(a^2 + b^2 + c^2 - bc - ca - ab)$ , that is we know that  $a + b + c$  is a factor of  $a^3 + b^3 + c^3 - 3abc$  for all values of  $a, b$  and  $c$ . Let us then write  $3x_2$  for  $b$ , and  $cx_3$  for  $c$  in this identity. Thus we get  $a + bx_2 + cx_3$  a factor of

$a^3 + b^3x_2^3 + c^3x_3^3 - 3abx_2cx_3$ , that is of

$a^3 + b^3 + c^3 - 3abc$ , from the above relations.

Similarly  $a + bx_2 + cx_3$  is also a factor.

No. 17, of April issue is an easy application of the preceding method. Factor  $x^3 + y^3 + z^3 - 3xyz$ , also  $a^3 + b^3 + c^3$ , as above, and apply the relations (a), (b), (c), etc. to reduce the products that result from multiplying them together. Let our readers try this in the meantime, and we will return to the question in some future issue.

## Examination Papers.

UNIVERSITY OF TORONTO. ANNUAL EXAMINATIONS, 1888.

JUNIOR MATRICULATION.

ENGLISH GRAMMAR.

PASS.

Examiner—JOHN E. BRYANT, M.A.

NOTE 1.—To candidates in Arts.—Candidates for scholarships will take questions 1, 2, 4, 6, 7, 8, 10, 11. Other candidates will take questions 1, 10 and 11; and one question from each of the following pairs of questions: 2 and 3, 4 and 6, 5 and 7, 8 and 9.

NOTE 2.—To candidates in Medicine.—Candidates for scholarships will take questions 1, 2, 4, 6, 7, 8, 11, 12. Other candidates will take questions 1, 11 and 12; and one question from each of the following pairs of questions: 2 and 3, 4 and 6, 5 and 7, 8 and 9.

1. (a) Show, and illustrate by means of one decisive example, that the *grammatical value* of a word depends mainly, not upon the word itself, but upon its use in the sentence.

In what sense can it be said that the grammatical value of a word is inherent in the word itself?

(b) What are the grammatical values, usually enumerated by grammarians, which words assume when used in sentences? In what way has the number of these grammatical values been determined?

(c) Discuss fully the question whether *each* and *every* word of a sentence possesses some one or other of these grammatical values. Illustrate your answer by examples.

2. What are the points of similarity and what the points of difference, between *phrases* and *clauses*? Illustrate your answer by appropriate examples.

3. What are *sense-constructions*? Give six representative examples of commonly accepted sense-constructions in which the usual rules with regard to number-forms are violated, and justify each example.

4. (a) Describe the function in the sentence of the (so-called) *relative-pronoun*.

(b) What objection is there, if any, to the use of the term “relative” as a distinguishing epithet of pronouns of this class?

(c) By the loss of which relative-pronoun would the language, in your opinion, suffer least? Justify your answer as well as you can. What, then, is gained, by the retention of this relative-pronoun in the language?

(d) What difference is there, if any, and what reason for the difference, between the use of the relative-pronoun *whose* and the relative-expression of *which*?

(e) Mention other words than *that, who, what, and which*, that are sometimes used with the grammatical value of relative-pronouns. (Illustrate by sentences containing these words.) Why, then, are these words not put in the usual lists of relative-pronouns?

5. Explain clearly the following statement:

"Pronominal adjectives are in part derivatives from pronouns; but in great part they are identical with them. They are partly adjectival and partly pronominal in function."

6. (a) Describe briefly the function of the *verb* in the different classes of sentences; and thence show that *mood* and *tense* are necessary conditions of every finite verb.

(b) Mention, illustrate by examples, and briefly define, the *tenses* and *moods*, which in modern English are distinguished by inflections.

(c) Where inflection fails, what other devices are made use of to distinguish variations of *time* (or *tense*) and *manner* (or *mood*) in verbs. Illustrate by examples.

(d) Is there, then, any necessary limit to the number of *tenses* and *moods* in grammar? (Justify your answer.) Practically, what determines the limit? What is *your own* scheme of tense and mood distinctions, and why have you adopted it?

7. What are the points of resemblance and of difference between *participles* and *infinitives* (1) with respect to one another? (2) with respect to the verbs from which they are derived? (3) with respect to other derivatives from the parent verbs?

8. Give examples and explanations of the various grammatical devices used to bind together *clauses* and *sentences* into *more complex* clauses and sentences.

9. Explain, and illustrate by examples, what is meant by *double objective constructions*. When sentences containing such constructions are changed into the passive construction, explain, with reference to the new sentences thus formed, the grammatical relationships of the words originally objects.

10. Write *short* explanatory notes on the grammatical anomalies or difficulties to be found in *any eight* of the following sentences:—

1. It is wonderful how patient she is.
2. 'Tis memory brings the vision back.
3. I tell you what, my lad, you are on the road to ruin.
4. That cloth cost a dollar a yard.
5. I thought he was there, but in reality he was out.
6. A dozen men were not sufficient to lead the prisoner in.
7. She has a good excuse to do it.
8. He need not go unless he wishes.
9. Only a hero could have borne this.
10. The mouse ran out from under the stool.
11. For you to have done this is folly indeed.
12. I shall be there in time provided my horse fails me not.
13. This gentleman is a friend of my brother's.
14. I have never met him that I am aware of.

II.

"The stars are glittering in the frosty sky,  
 "Frequent as pebbles on a broad sea-coast;  
 "And o'er the vault the cloud-like galaxy  
 "Has marshal'd its innumerable host.  
 "Alive all heaven seems! with wondrous glow  
 "Tenfold refulgent every star appears,  
 "As if some wide celestial gale did blow,  
 "And thrice illumine the ever-kindled spheres.  
 "Orbs, with glad orbs rejoicing, burning, beam,  
 "Ray-crown'd, with lambent lustre in their zones,  
 "Till o'er the blue bespangled spaces seem  
 "Angels and great archangels on their thrones;  
 "A host divine, whose eyes are sparkling gems,  
 "And forms more bright than diamond diadems."

(a) Describe briefly, but clearly, the more important grammatical functions discharged by the italicized words in the above extract.

(b) Write out in full the subordinate clauses therein, and explain their relationship to their respective principal clauses.

(c) Explain how your knowledge of etymology helps you to understand the meaning of the following words: "glittering" (l. 1); "sky" (l. 1); "vault" (l. 3); "galaxy" (l. 3); "marshal'd" (l. 4); "innumerable" (l. 4); "alive" (l. 5); "wondrous" (l. 5); "appears" (l. 6); "lambent" (l. 10); "bespangled" (l. 11); "archangels" (l. 12); "sparkling" (l. 13); "gems" (l. 13); "diamond" (l. 14); "diadems" (l. 14)

12. (For candidates in Medicine only.) Write a composition (not exceeding sixty lines) on *any one* of the following themes:

1. The character of Sir Alexander Ball.
2. The value of Malta as a British possession.
3. The personal relations of Sir Alexander Ball and Lord Nelson.
4. Sir Alexander Ball's administration of affairs in Malta.
5. The value to the physician of general culture.

EDUCATION DEPARTMENT, ONTARIO.  
 MIDSUMMER EXAMINATIONS, 1888.

THIRD CLASS TEACHERS.

POETICAL LITERATURE.

Examiners { JOHN SEATH, B.A.  
 } JAS. F. WHITE.

NOTE.—All candidates must take section IV. They may select any two of sections I—III.

I.

O strong soul by *what shore*  
 Tarriest thou now? For *that force*,  
 Surely, has not been left vain!  
 Somewhere, surely, afar,  
 In the *sounding labor-house* vast  
 Of being, is practis'd that strength,  
 Zealous, beneficent, firm!  
 Yes, in some far-shining sphere,  
 Conscious or not of the past,  
 Still thou performest the word  
 Of the Spirit in whom thou dost live—  
 Prompt, unwearied, as here!  
 Still thou upraisest with zeal  
 The humble good from the ground  
 Sternly represses the bad!  
 Still, like a trumpet, dost rouse  
 Those who with half-open eyes  
 Tread the border-land dim  
 'Twixt vice and virtue; reviv'st,  
 Succorest!—this was thy work,  
 This was thy life upon earth.

What is the course of the life  
 Of mortal men on the earth?—  
 Most men eddy about  
 Here and there—eat and drink,  
 Chatter and love and hate,  
 Gather and squander, are rais'd  
 Aloft, are hurl'd in the dust,  
 Striving blindly, achieving  
 Nothing; and then they die—  
 Perish—and no one asks  
 Who or what they have been,  
 More than he asks what waves,  
 In the moonlit solitudes mild  
 Of the *midmost Ocean*, have swell'd  
 Foam'd for a moment, and gone.

1. State, with reasons, whether each of the foregoing sections is a complete paragraph.
2. Explain and comment upon the meaning of the italicized parts.
3. How does the poet himself explain what he means by "that force"; "somewhere, afar"; "is practis'd that strength, zealous, beneficent, firm"; and "eddy about"?
4. Fully exemplify and explain the poet's use of repetition and contrast in the foregoing extract.
5. Show, as well as possible, wherein consist the beauty and the appropriateness of ll. 33-36.
6. What characteristics of the author are exemplified in the foregoing extract?

II.

"Girt with many a baron bold  
 Sublime their *starry fronts* they rear;  
 And gorgeous dames, and statesmen old  
 In *bearded majesty*, appear.  
 In the midst a form divine!  
 Her eye proclaims her of the Briton-line;  
 Her lion-port, her awe-commanding face,  
*Attemper'd sweet* to virgin-grace.  
 What strings *symphonious* tremble in the air,  
 What strains of vocal *transport* round her play,  
 Hear from the grave, great Taliessin hear;  
 They breathe a soul to animate thy clay.  
 Bright Rapture calls, and soaring, as she sings,  
 Waves in the eye of heaven her many-color'd wings.

"The verse adorn again  
 Fierce War and faithful Love,  
 And Truth severe, by *fairly Fiction* drest.  
 In *bushin'd* measures move  
 Pale Grief, and *pleasing* Pain,  
 With Horror, tyrant of the *throbbing* breast  
 A voice, as of the *cherub-choir*,  
 Gales from *blooming Eden* bear;  
 And *distant warblings* lessen on my ear,  
 That lost in long futurity expire.

1. How is this extract connected in sense with the rest of the ode? Account for the bard's attitude in the extract towards "Britannia's issue."
2. Explain the biographical references in "they," (l. 2); "a form divine," (l. 5); and "The verse—expire," (ll. 15-24).
3. Discuss the meaning of ll. 1, 2 and 6-24, showing especially the force of the italicized parts.
4. Show, as fully as you can, how the poet has given beauty and force to his language.

III.

Break, break, break.  
 On thy cold gray stones, O Sea!  
 And I would that my tongue could utter  
 The thoughts that arise in me.

O well for the fisherman's boy,  
 That he shouts with his sister at play!  
 O well for the sailor lad,  
 That he sings in his boat on the bay!

And the stately ships go on  
 To their haven under the hill;  
 But O for the touch of a vanish'd hand,  
 And the sound of a voice that is still!

Break, break, break.  
 At the foot of thy crags, O Sea!  
 But the tender grace of a day that is dead  
 Will never come back to me.

1. State and account for the author's mood in this poem. What is the subject of the poem?
2. Describe the scene before the poet's mind, accounting for the order in which he notices the different objects.
3. Explain how ll. 3-4, 11-12, and 15-16 are respectively connected in sense with the preceding context.
4. Show how the poet has harmonized his language and versification with his thoughts and feelings. What qualities of style are exemplified in the poem?
5. Write brief elocutionary notes on the poem.

IV.

1. Name and describe the nature of the class of poems to which each of the foregoing selections belongs.
2. Quote a passage describing (1) the path through life of those who strive "not without action to die fruitless"; or (2) the effect upon the village maiden of "the burden of an honor, unto which she was not born"; or (3) the condition of the "Revenge" immediately before its surrender, the surrender of the Revenge, and the death of Sir Richard Grenville.

Love of money decidedly and positively operates against creative tendencies in art. It deadens artistic feelings and destroys those tender blossoms which are absolutely needed to foster imaginative tendencies; the actual facts of life overwhelm the inspiration of higher tendencies, and the love of the realistic coin smothers the attachment for beauty in the art-life of the senses.—*Exchange*.



## BUSINESS NOTICES.

WE direct attention to the advertisement, 14th page, of the "Concise Imperial Dictionary." It is our intention to handle this Dictionary in connection with the JOURNAL, and we offer it in the best binding, and the EDUCATIONAL JOURNAL for one year, both for \$5.50, plus 14 cents for postage. Subscribers who are paid in advance may deduct the amount they paid for one year, send the balance, and have the book at once.

WE desire to repeat our request that Inspectors and Secretaries of Associations send us programmes of their forthcoming Conventions as soon as issued. We desire to make announcements of such Conventions, with somewhat fuller particulars than may be found on a Departmental list. Moreover, as this list contains only the names of Inspectorates in which Teachers' Institutes are held, a great many Conventions of Teachers, not being upon the list, are unknown to us, and unannounced. Give us an opportunity to make your operations known to the whole body of Teachers, all of whom take an interest in what concerns the profession. Also, please send us a summary of proceedings.

## TEACHERS' ASSOCIATIONS.

ASSOCIATION meetings will be held in the following Inspectorates during the coming month:—

October 4 and 5.—North Grey, at Owen Sound.

October 4 and 5.—Ontario, at Whitby.

October 11 and 12.—East Bruce (no Programme received).

October 11 and 12.—Perth, at Stratford.

October 18 and 19.—West Bruce, at Kincardine.

October 18 and 19.—Frontenac and Kingston, at Kingston.

October 18 and 19.—East Huron, at Wingham.

October 25 and 26.—South Grey, at Flesherton.

October 25 and 26.—South York, at Parkdale.

October 25 and 26.—Oxford, at Woodstock.

November 1 and 2.—Durham, at Port Hope.

Dr. McLellan will attend the meetings at Owen Sound, East Bruce, Kincardine, and Flesherton; Mr. W. Houston, M.A., those at Whitby, Stratford, Wingham, Woodstock, and Port Hope; Mr. John Dearness, I.P.S., East Middlesex, that at Kingston; Mr. A. T. Cringan, Musical Instructor, that at Parkdale. Mr. H. A. Ford, of Michigan, will also be present at Stratford. Evening lectures will be delivered by Dr. McLellan and Mr. Houston, in connection with meetings attended by them; and Rev. Dr. J. H. Vincent, the founder of the Chautauqua Literary Circle, will deliver a lecture on the evening of the first day at Kingston.

*Editorial.*

TORONTO, OCTOBER 1, 1888.

## CRAMMING IN ENGLISH SCHOOLS.

RECURRING to the subject of thoughtful *versus* mechanical teaching briefly treated of in last issue, it is, in one aspect, gratifying to find that the Canadian Elementary Schools are, as there seems good reason to believe, outstripping the English in the race of reform. There seems to be amongst educators and observers in the mother country a very general consensus of opinion that the methods of instruction still in use in the public schools are the very reverse of intelligent, and that the code, with its examination system, is a great clog on the wheels of progress. A London journal recently put the state of the case very strongly, and its views are in substantial agreement with many expressions of other papers which have come under our notice, and especially with those of the educational journals. After noticing the wondrous strides that have been made, so far as number of schools and of children in attendance is concerned, the editor goes on to say:

"But what is the worth of the education given? This education is determined by the

annual examination of the scholars. To secure good results, to pass a large percentage of his scholars at these examinations, is the principal aim of the teacher. Frequently the amount of money earned by the head teacher is regulated by the earnings of the children in grants. And in cases where the salary is fixed, the position and prospects of the teacher are largely dependent on the report of her Majesty's inspector. Under these circumstances the education given in the schools is, and cannot but be, what the examination requires it to be. Without any hesitation we express the slowly-formed but very decided opinion that the education given in our public elementary schools consists mainly of cramming. The memory is sharpened. Almost infinite pains are taken to cultivate to well-nigh preternatural quickness and retentiveness the faculty of remembrance. Parrot-like repetitions best serve the purpose of the teacher. It is a comparatively small matter whether the answer to a question is understood. The main thing is that it shall be accurately stated—that the names, for instance, of seas and bays and rivers and promontories and isthmuses are correctly spelt and placed in their right order. Results of examinations are obtained by attention to the literal and the mechanical. And so the scholars learn by rote. They acquire the quickness and pertness of a parrot, give out what they have taken in. Whether they have mastered the sense or understood the significance of the lesson is quite another and, to the teacher, not nearly so important a matter. Those who have watched examiners at work while inspecting public elementary schools, say that nothing can be less helpful in the developing of real intelligence, in the exercising of intellectual power, or a severer test of the verbal accuracy with which the memory retains what has been entrusted to it, than the annual examination by inspectors. The craze for passes is injurious in its influence on teachers and on scholars."

In a recently published report, the Inspector for the Manchester district brings a strong indictment against the elementary teachers of that district, the bulk of whom he credits with ignorance as to "what education means, what its true views and objects are." Their teaching he says, is not a "formative, plastic power, moulding, developing, stimulating the mental faculties of their children," but "limited chiefly to conveying to the mind some portions of knowledge for reproduction before it has been assimilated." The reason for this state of things is that they "are not so educated as to become the nursing fathers and nursing mothers of an intelligent, thoughtful people."

This sweeping censure naturally called forth a strong rejoinder. A committee of the Manchester Teachers' Association, in a vigorous letter, dispute the inference drawn by Inspector Coward but, at the same time, admit that they are convinced that the intelligence of the children is not developed to the extent that it might be had they the opportunity to use rational means. The committee go on to say:

"In spite of a system whose tendency is to dwarf and place intellectual teaching at a discount, most teachers have risen superior to their surroundings and have sought to draw out and develop the mental and moral powers of the children. These efforts in many cases have been weakened by the inspectors using such methods of examination as lent themselves most

readily to easy tabulation. We cannot accept the statement that the teacher is answerable for this lack of intellectual results. The real cause of the backwardness of English primary education (if it be so backward as is stated) is not the result of the mental poverty of the teacher, but of the system of "mechanical examination of mechanical knowledge imparted by mechanical methods of instruction," called "payment by results," which has been well defined as "that unique system which confounds instruction with education, which arranges everything for the teacher except an opportunity to educate, which denies the teacher the power to place his scholars in classes suited to their capacities or the development of them, which yearly uproots the plant to see if it is really growing, and which compels the teacher to make bricks without straw." The better elementary teaching and the higher intellectual results obtained in the continental schools are mainly attributable to the absence of such a system as the above, which is in force in no other country, and in this country in no other schools than those under the Education Department. Under the present system much, if not all, is subordinated to earning grants. Should a teacher venture on organizing his school on a rational basis, the chances are against his scholars passing a successful examination as measured by percentage of passes and assessment of merit grant. From many managers that intelligent teacher would receive the warning, "You must obtain better results or go." This has been done even by boards who can and ought to afford to use the best and proper means of educating our children irrespective of all money considerations."

This is instructive reading. Whether the evils of the cast-iron system so graphically described have been wholly eliminated from the Ontario schools is a question upon which teachers are better qualified than we to pronounce an opinion. It may be useful for them to compare their position and methods with those of their brethren in the mother land.

## A TEMPERANCE MISSIONARY.

PROFESSOR HENRY A. FORD, of Detroit, Michigan, took the opportunity of attendance upon the great educational convention in San Francisco last July to advocate and illustrate scientific temperance teaching in the long line of States and Territories through which he passed. Starting from home June 28, he did not return until September 18 and during his eighty-two days of absence a set of charts, exhibiting most graphically and impressively the effects of stimulants and narcotics upon the human system, were shown and explained by him at main points in Colorado, New Mexico, California, Oregon, Washington, Montana, Dakota, Minnesota, and Illinois, in all of which the system has been ordained by law, except only the last. Mr. Ford writes to the JOURNAL that thirty-six States and Territories, out of fifty in the Union, now make temperance teaching in the public schools compulsory, and adds: "Although a veteran and enthusiastic worker in this reform, on its general lines as well as in education; I approve most cordially the utterance of the JOURNAL in its issue for July 2: 'The object, be it remembered, is not to turn the schools

into total-abstinence or prohibition societies, but to teach the children scientific truth of the utmost importance in regard to the action of alcoholic stimulants upon the human system.' That is precisely the right basic principle—very well put, too; and the teacher who attempts to use his opportunity in this work to promote third partyism, or any other form of temperance sectarianism; is as responsible as one would be who, in this day of powerful tendencies towards religious union, should become a propagandist in the school-room of some special form of religious sectarianism." He found in most localities visited in his 9,000 mile round, a very hopeful feeling in behalf of temperance instruction; and apparatus such as he carried has already found its way to some parts, even remote and obscure, of the "wild and rowdy West." He is still firm in the belief that in the Church and the school—that is, on the several lines of education—is the best hope of the temperance reform, since the demand must be cut off before the supply can entirely be checked. Mr. Ford will make three lectures out of his observations and experiences, "The Golden West," "The New North-west," and "Nine Thousand American Miles," the last named more a personal narrative—which he will be ready presently to deliver before institutes and associations, high schools, popular assemblies, or other bodies interested in such themes.

#### SANITARY TEACHING.

AMONG the practical subjects with which every teacher should be more or less familiar the laws of health, as they are being developed by sanitary science, should have not the lowest place. Some of the results achieved by the application of sanitary principles in the municipal regulations of towns and cities, in the management of industrial and charitable institutions, etc., are truly wonderful.

In a paper recently prepared by Mr. Edwin Chadwick, who has been an enthusiastic advocate of sanitary reform in England for many years past, many such facts as the following are given:—By sanitation, by house-to-house inspection, by prompt treatment of premonitory symptoms, full 50,000 lives were saved from cholera in Britain beyond the rate of loss in Sweden, where such precautions were not taken. In St. Petersburg, where the authorities had the sense to follow the English example, 20,000 lives were saved at each of two visitations. Not long ago the death-rate in London was twenty-four in 1,000; it has now fallen to fourteen or fifteen in 1,000. This is a notable improvement, but it does not content Mr. Chadwick. He would have constant supplies of pure spring water carried into every house, "without cisternage and stagnation and de-aeration." He would have the fouled water "carried out of every house by self-cleansing house-drains and sinks into the self-cleansing sewers of the streets and from these on to the sewage farms, fresh and without loss of strength by putrefaction."

He boldly maintains that if the works had been executed on the plans prepared, and had there been no "non-feasance," or "mis-feasance," or "mal-feasance," chargeable upon those responsible for carrying out the scheme, the London death-rate might now have been reduced to twelve in 1,000, and the river, instead of being "a disgrace to the metropolis and to civilization," might have been pure.

The *Christian World*, from whose report these facts are quoted, says:—

"On no part of his subject does Mr. Chadwick dwell with deeper complacency than on the advantage wrought by sanitation for children. In the large district schools of the Poor Law Unions the chief diseases of childhood are "practically abolished." Measles, whooping cough, typhus, scarlatina, diphtheria carry off no victims. The general death-rate is ten in 1,000, but the probationary wards, where for obvious reasons the rate is high, are included in this estimate. The death rate of those children who come in without developed disease upon them is now less than three in 1,000—a most extraordinary result, the death-rate prevalent among children of the general population of the same age being more than three times as high. Mr. Chadwick illustrates the method by which this was accomplished by detailing the process as applied in 'an institution where the old death-rate was the common outside one of twelve in the 1,000.' The place was first drained effectively and cleared of all sewage smells. This alone reduced the death-rate to eight in 1,000. Thorough washing, from head to foot, with tepid water, was next introduced, and the death-rate again declined. Some further improvements, such as better ventilation in the rooms, and separate bedding of the children in unexceptionable beds, completed the process. The death-rate sank to less than three in 1,000, 'and that with children of the lowest type.'"

The power of sanitation has been displayed almost as strikingly in connection with the military services of various nations. The death-rate in the Guards used to be twenty in 1,000; it is now six and a-half in 1,000. The death-rate in the home army in general has been reduced from seventeen to eight. In Germany, however, the army death-rate is but from five to six in 1,000. The old Indian army death-rate was sixty-nine in 1,000. It is now about fourteen in 1,000. The frightful mortality in the old Indian army, indicated by the above death-rate, is no unimportant contribution to an explanation of the Indian mutiny. Great attention is paid in Germany to the washing of the soldiers, and to this in great part Mr. Chadwick attributes the lowering of their army death-rate. He accentuates the economy of cleanliness. "A pig that is washed puts on one-fifth more of flesh with the same amount of food than a pig that is unwashed." He is almost as enthusiastic in his estimate of the educational and hygienic virtues of drill as in his estimate of the benefit and beauty of cleanliness. The village lads of Germany return from their three years' service in the army to occupy a position in the labor market higher, by thirty per cent., than that of young men who have not served. Well-taught, well-washed, well-drilled, and reasonably well-fed boys are turned out of ele-

mentary schools by Mr. Chadwick, able to earn from 8s. to 12s. weekly wage—as much, that is to say, as adults used to receive not very long since.

It would be, of course, unreasonable to expect the Public School teacher to give other than incidental instruction in such matters. But in subjects relating to health, as in those relating to morals, incidental teaching and training are the best and most effective modes of instruction. In the average school, opportunities for emphasizing the virtues of neatness and cleanliness, in regard to both person and surroundings, will be of almost daily occurrence. There seems, too, good reason to believe that even in this enlightened country and age, it would not be difficult to find a considerable percentage both of adults and of children who from week's end to week's end do not indulge in the luxury, not to say decency, of a head-to-foot bath. The children in the schools should be made to feel that neglect of frequent bathing is a sin against respectability as well as against health. The habit once formed in youth will rarely be broken in after years. It will become a matter of personal comfort, as well as of self respect and conscience. So too with respect to surroundings. The keeping of desk, floor, school room, and grounds clean, tidy, and tastefully arranged, affords a means of educating both by precept and example, which no true teacher will neglect. Such incidental training is by no means the least important part of education. It may be made to tell most powerfully in behalf of the future health, happiness, and longevity of the nation.

#### Literary Notes.

GINN & Co. are to be the American publishers of the *Classical Review*, which is published in London, and numbers among its contributors the most eminent classical scholars of Great Britain. American scholars will be associated in the editorship.

AN unfamiliar face greets the reader in the frontispiece of the September *Century*, that of Edward Thring, the late Head Master of the Uppingham Grammar School, England. This is a compliment paid to an educator pure and simple. Mr. Thring has been said to have been, since Arnold of Rugby, the most highly esteemed educator of England. Our readers have often had the opportunity of making his acquaintance in the short, stirring, and eloquent passages we have quoted from his writings. These have always the right ring, and we shall continue to quote. Meanwhile readers of the *Century* will be glad to see his portrait.

*St. Nicholas* for September has a dainty summery frontispiece, the original of which may be found in almost every country place, showing that "More near than we think—very close at hand, lie the golden fields of Sunshine Land," as Miss Edith M. Thomas tells us in the poem which opens the number. Estelle Thomson relates a charming story about "Knot-Holes," and "What Dora Did" is a true story of a Dakota blizzard. There are several articles about birds. Ernest E. Thompson describes the "Pintail;" Henry Tyrrell writes a charming poem, "The Water-Ousels' Address"; and Charles Frederick Holder reports "How Some Birds are Cared For."

*Hints and Helps.*

SCHOOL-ROOM DIFFICULTIES.

THE Great Teacher, as He undertook His mighty work, found He was surrounded by a mob of people who wanted bread. In the midst of those wonderful parables His eye would see some man struggling through the crowd towards Him, and whose greeting would be, "Master, some bread." He could well say, "The poor ye will have with you always." The teacher of every humble school can say, "Perplexities and difficulties I have with me always." While she is hearing the lesson about Africa, a pupil is seen slyly reaching for an apple in a studious neighbor's desk. This is but a sample of the troubles that meet the teacher in her efforts.

Now can these difficulties be removed? We aver that they can, every one of them. Not that the seeds of evil are exterminated but as the farmer diligently stirs the ground to keep down the weeds, so the teacher prevents the seeds from germinating. There is no patent method of managing; but the skill, patience, good-nature, ingenuity, earnestness and authority of the teacher will work wonders. What are these difficulties?

1. *Noise with feet.*—Some pupils' feet are ever in motion. I once put down a carpet in a school-room for young ladies. One wore a hole through it in a month. Have a mat and scraper at the door, and have the sand and mud brushed off; have the room swept every day. Then give attention to those who make a noise and who do not. By complimenting these you can do a great deal towards removing the difficulty. "John, I am glad to see you take so much pains not to make any noise with your feet."

2. *Noise with books and slates.*—The slates can be covered with cloth; some teachers have no slates used; paper is employed. But if slates are used, the same course must be taken as with the trouble arising from moving the feet. "John, I thank you for taking such pains with your slate."

3. *Noise from studying out loud.*—Call a pupil to you who studies out loud, and whisper softly and pleasantly in his ear, "You forget you study out loud; try now." Look in his direction often and very encouragingly. Again, ask a pupil in the vicinity of such a pupil to touch him when he is noisy. The same remarks as in the two preceding paragraphs will help matters very much. Tell them that it is said "that only in the backwoods schools there is studying out loud," and that you do not wish your school to be called a "backwoods school."

4. *Whispering.*—You can soon see who whispers too much. You will be wise not to forbid it. It is not a crime; it is an inconvenience only. Call up John and say to him, "Try not to speak again to your neighbors for an hour." Allow a little space between classes, not for whispering, that is a bad plan, but for resting, singing, opening of windows, etc. Let those whisper, then, who wish. And then say, "Now for quiet and study again."

5. *Idle ones.*—Contrive to have every one employed. Put up a programme in plain sight; one part for recitations, one part for studies. See that the "first class," for example, who should study arithmetic according to the programme, are studying it before you begin with the recitation.

6. *No lessons.*—You will have pupils come into a class and say, "I have no lesson." Do not spend any time in discussing why and wherefore at that time. It is partly your fault. Make a rule for yourself that no pupil must come in with an excuse like that. If some were absent yesterday, watch them as they come in, and see that they find where the lesson is, and study it, then and there. When you are ready to dismiss your class, then arrange for the study that has been neglected.

7. *Vicious pupils.*—This number is a small one; but they may be increased if pains are not taken. Don't make a mistake and class idle, fun-loving boys as "bad boys." Say it often with pride, "There are no bad boys in this school." If a boy thinks you think he is bad, he will try to be so. Don't be afraid of your bad boy. I had a pupil that was the son of a butcher, and was called "the terror" by the girls, he teased them so. I asked him to come and sit with me on the platform, and

told him to help me teach, "I needed his help." He thought I picked him out for his ability to help me, and he became a great helper and a good boy. I thought he was a bad boy, but he was not; he had not been handled right.

8. *Yourself.*—The great difficulty in the school-room will be with yourself; strange, you say, but it is true. (1) You will go full of fear; that is bad. (2) You will go determined to subdue evil and opposition; that is bad. (3) You will go suspicious and spying; that is bad. You must come hopeful, pleasant, sunny, friendly, encouraging, looking for the best side of everybody, making the best of everything, with energy, with inventiveness, practical, earnest, sincere, adaptable, with power to bring order out of chaos, with a good understanding of your work and of the children. You must study the cause of the difficulties, and remove the cause.—*N. Y. School Journal.*

PROMISSORY NOTES AND DRAFTS.

BY J. W. JOHNSON, F.C.A.,

Principal Ontario Business College, Belleville.

(CONTINUED.)

THE BOOK-KEEPING IN CONNECTION WITH NOTES.

ANY written obligation to pay money not under seal is termed in business by the holder a bill receivable, and by the maker or acceptor a bill payable. In book-keeping the accounts in the ledger with these are called, respectively, Bills Receivable account and Bills Payable account. Bills Receivable account is made Dr. when other peoples' notes and acceptances are received and credited when they are disposed of. The difference or balance between the two sides should correspond with the notes on hand, and the account closes by balance, unless all the notes have been disposed of, when, of course, it will be simply ruled and footed.

Bills Payable account is credited when you issue a note or accept a draft, and debited when you redeem, or, as the word is, retire these obligations. The difference between the two sides should correspond with the obligations outstanding and the account closes to balance, unless all the notes have been paid, when, like Bills Receivable account under like circumstances, it will be ruled and footed. The mere novice in book-keeping will understand and be able to deal with these accounts when, in the case of Bills Receivable, they are simply received and disposed of, and, in the case of Bills Payable, when they are simply issued and redeemed. But in the event of

NOTES HAVING TO BE RENEWED

more difficulty will be experienced. I shall take an example or two. A note of \$300 received from F. Spencer was duly debited to Bills Receivable and his account was credited. It stood at the debit of Bills Receivable until I disposed of it by discounting at the Bank of Commerce, when I made the bank debtor for the proceeds, discount debtor for the difference between the proceeds and the face of the note, and credited Bills Receivable account with the whole amount. My customer asks for a renewal of the note, and I consent. The renewal is for three months and the interest is to be added to the new note, making it \$305.20. I pay the old note by cheque, send it back to Spencer and get the new one. Entries for the cheque given to pay the note:

Bills Receivable.....\$300  
To Bank.....\$300

This entry places the note where it was before it was discounted, and is the same that would be made by an endorser under any circumstances paying a note for a maker, except when the maker was considered financially worthless, when it would be charged to Profit and Loss.

ENTRIES FOR THE RENEWAL.

Bills Receivable Dr.....\$305 20  
To Bills Receivable.....\$300 00  
" Interest..... 5 20

The maker's entry for the same transaction would be:—

Bills Payable Dr.....\$300 00  
Interest "..... 5 20  
To Bills Payable.....\$305 20

PARTIAL RENEWALS.

Brown renews for you half the amount of a note for \$500.00 due to-day. You pay \$250 cash and give a new note for half the amount of the old one and interest on renewal, \$3.50.

1. Your entry: \$ c.  
Bills Payable Dr..500.00  
Interest ..... 3.50  
To Cash.....250.00  
" Bills Payable..253.50  
2. His entry.  
Bills Rec'ble Dr..253.50  
Cash .....250.00  
To Bills Rec'ble..500.00  
" Interest.... 3.50

Brown renews for you half the amount of a note for \$600.00, due to-day. You pay \$303.00, being half the amount, plus the interest on renewal, and you give a new note for half the amount of the old one.

3. Your entry:  
Bills Payable Dr..600.00  
Interest "..... 3.00  
To Cash.....303 00  
" Bills Payable.300.00  
4. His entry.  
Bills Rec'ble Dr..300.00  
Cash ".....303.00  
To Bills Rec'ble..600.00  
" Interest .. 3.00

Where a cash book is kept of course the cash would have to be put through it. In that case the entries for No. 1. would be as follows:—

CASH CREDIT.  
By Bills Payable.  
For part payment on No. 92, renewed as per Journal and Bill Book.....250.00

JOURNAL.

Bills Payable Dr..250.00  
Interest "..... 3.50  
To Bills Payable.253.50

DRAFTS.

Nearly all that I have said of notes is applicable to drafts: they differ, however, in form and in other respects. A note is a *promise* to pay originating with the debtor; a draft is an *order* to pay originating with the creditor, and addressed by him to the debtor. There are three parties to a draft—the *drawer*, the one that draws it; the *payee*, the one in whose favor it is drawn; the *drawee*, the one on whom it is drawn.

Robinson and Johnson, Belleville, are indebted to John Lovell & Son, Montreal, who desire that they shall pay at ten days' sight the amount to R. Miller, Son & Co., to whom John Lovell & Son are indebted, and to effect this they draw the following:—

DRAFT.

MONTREAL, January 8, 1887.

\$500.00.  
Ten days after sight pay to the order of \* R. Miller, Son & Co., the sum of Five Hundred Dollars, for value received, and charge the same to the account of

† JOHN LOVELL & SON.

To † ROBINSON & JOHNSON,  
Ontario Business College,  
Belleville.

\* Payee. † Drawer. ‡ Drawee.

To make the draft binding upon Robinson and Johnson they will have to accept it, which they will do by writing across the face:—

Accepted January 10, 1887, payable at the Canadian Bank of Commerce, Belleville.  
Robinson & Johnson.

After which it is called an acceptance. Robinson & Johnson are now in the same position as if they had signed a promissory note, and John Lovell & Son are in the same position as the endorser on a note. It is customary to allow the drawee to choose the place of payment; in this case Robinson & Johnson name the Bank of Commerce, Belleville. If the draft were drawn at ten days' date instead of ten days' sight there would be no necessity to place the date of acceptance upon it. In the former case the maturity would be reckoned from the day the draft was drawn, in the latter it is reckoned from sight.

The drawer of a draft may be both drawer and payee. If John Lovell & Son desired to collect for themselves the amount of Robinson & Johnson's debt they would draw the draft to their own order.

The entries of the parties to the above draft would be as follows:—

John Lovell & Son's { R. Miller, Son & Co., Dr.  
would be { To Robinson & Johnson.  
R. Miller, Son & Co.'s { Bills Receivable Dr.  
would be { To John Lovell & Son.  
Robinson & Johnson's { John Lovell & Son, Dr.,  
would be { To Bills Payable.

Drafts sent for acceptance or collection through a bank will be protested if dishonored, unless instructions to the contrary have been given, or a slip be pinned to the draft with the words printed or written upon it: "Not to be protested; take this off before presenting." You may often succeed in collecting from a slow customer by the medium of a draft when dunning letters would fail to produce a cent. When drawing on a doubtful customer be sure to attach the "No Protest," for the reason that if your draft should be returned dishonored and protested you will have to pay the notarial charges yourself.

(To be continued.)

## School-Room Methods.

### DICTIONATION EXERCISE.

DID you ever see a person pare an apple or a pear with a pair of scissors?

The boy cut his finger on the edge of a broken pane of glass, and the wound gave him great pain. At the end of a long straight path was a strait gate.

Those boys in the yellow sleigh delight to slay rabbits and squirrels.

He seized the boy and beat him with a large beet root.

If e'er you see the heir to this estate again putting on airs, let me know ere you sleep.

Do you believe it wrong to deceive the poor convict with a hope of reprieve?

He'll return to school as soon as his sore heel heals.

See how that woman on the stairs stares at us. That man standing near the telegraph pole is the collector of the poll tax.

That fair little girl, on her way to the fair lost the money her mother gave her to pay the fare.

The principal of the College refused on principle to do as he was asked.

Just as night was coming on a gallant knight rode up to the castle.

Is this the right way to write the address of the wheelwright?

### A METHOD IN ARITHMETIC.

I NOTICED in a late number of the JOURNAL an excellent method of teaching arithmetic to junior pupils. I have taught by it and found it a good one, but it requires that virtue peculiar to teachers—patience. I have one which I think is more easily taught with less trouble. It is a method to teach pupils the addition of the digits. When pupils are prepared for a first lesson in addition begin by having them write the digits on the blackboard. Then begin, using crayons or the fingers as illustrations, by asking them to give the number of fingers you will have to hold up to make a certain figure, pointing it out. I always begin at 1 and add by ones up to nine, then begin by twos, etc., drilling on each one. When you think they are well enough up in adding by the fingers, begin to add without use of fingers; but should they hesitate fall back to the fingers again. In this way pupils may be led to add with less trouble than the old method.

Now get them to tell you how much 1 and 0 will make, and I must say that some pupils are so dull that they cannot tell you. Ask them how much you will have to add to five fingers (holding them up) to get five fingers, they will tell you nothing. Drill them in this. Then begin to write figures on the board and you will find no trouble in teaching addition.

As my time is limited I cannot describe the method at length. I have just outlined the method and that briefly. Teachers can work out their own reasons for each step and try the method. It will do them no harm to experiment with methods, holding fast to that which is good.

U. E. BROWN, *Escott, Ont.*

### LESSON TO DEVELOP IDEAS OF NOTATION.

(Continued.)

How many bundles of ten make one hundred sticks? "Ten bundles."

How many tens make a hundred? "Ten tens." The teacher may now write the group of figures marked *f* on the blackboard.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>
100	123	156	101
200	321	201	320

Then take one of the hundred bundles to represent the first number, and two of the hundred bundles to represent the second number.

Next the teacher may write the group of figures marked *g*,\* and represent each with the bundles of sticks. For the first number take one of the hundred bundles, two of the ten bundles, and three sticks. For the second number of this group, take three of the hundred bundles, two of the ten bundles, and one stick. Proceed in a similar manner with groups marked *h* and *i*.

Pointing to the first place on the right of each group of three figures, the teacher asks, What is this place called? "Unit's place."

In the same manner, pointing to the second place in each group of three figures, the teacher asks, What is this place called? "Ten's place."

In the same way, point to the third place, and ask, What is this place called? "Hundred's place."

You may now name each place as I point at it. "Units, tens, hundreds, tens, units; tens, hundreds, units; units, tens, hundreds."

How many units does it take for one ten? "Ten units."

How many tens does it take for one hundred? "Ten tens."

The teacher may write figures on the blackboard, and require the children to read them as units, tens, hundreds, thus:—"Four units, six tens, seven hundreds;" "Two hundreds, one ten, three units."

The pupils may now take their slates and write figures from dictation as follows, viz:—

"Write four units and five tens; write three units, four tens, and five hundreds; write eight hundreds, two tens, and one unit; write six units, no tens, four hundreds; write three hundred and twenty-four," etc.

When the pupils can readily read and write any number of hundreds, units, and tens, and can tell where each place is in any line of figures, they may be taught the numeration and notation of the period of thousands, as in the third step.

(To be continued.)

### ELEMENTARY COMPOSITION.

BY DONALD M'INTOSH.

EVERY teacher, no doubt, has his own method in teaching this important subject, but I think it is of advantage to vary our methods occasionally so as to create a fresh interest. In the use of stories for reproduction work, most teachers read the narrative twice and then make a few explanations. I find it a good plan to read once, and explain the difficult words and phrases. Then I lay aside the book, and tell the leading thoughts in my own words. This has the effect of turning the attention of the children from the mere phraseology to the thoughts in the passage read. I have often created a fresh interest by narrating some incident that had recently occurred in the school, play-ground, or district. Being familiar with the circumstances of the case, the children have less difficulty in clothing it with suitable words.

My greatest difficulty, however, lies in correcting the exercises, so as to be able to explain and expose the errors. No doubt the best way is to examine the exercises individually. Thus, you have an opportunity of grouping the errors. But the cry of "want of time" comes in here, and takes away my breath. In any case, the method should be adopted occasionally, so that you may know where the weak parts of the class lie. This may be done as home or school exercises, written on paper and examined by the teacher after school hours.

In some cases, the exercises are given to the best pupils to correct. But errors marked in this way are seldom looked at, consequently it is lost labor. Another method is to exchange the exercises in the class. It is advisable that the most proficient should exchange with those who are behind. As soon as attention is got in the class, the story is read slowly—for the third time—the examiners are meanwhile carefully following and marking errors. Full allowance is made in the matter of phraseology. One or two slates may then be taken to test the accuracy of the corrections.

This method has these advantages (1) It saves time, as the examination can be done in a few minutes in the largest classes. (2) The thoughts and expressions of the pupils who are blessed with some brains are perused by those who are lacking in that commodity; and (3) The whole class have got an opportunity of hearing the narrative read after they have gone through the ordeal of trying to reproduce it.

But whatever method is used, the blackboard should be taken advantage of for the purpose of illustrating and explaining how the exercise should be done.

I have found it of the greatest help to read an interesting story in the usual way on Friday afternoon, and ask the children to bring it written out on Monday morning. This weekly exercise is always corrected by myself at home.

The following methods I have generally found successful:—The exercise should consist of (1) short essays on familiar subjects, (2) reproducing narratives and letters. To these may be added the summaries of lessons, paraphrasing of easy poetry, and synopsis of any book they may have read. Two things must be specially attended to in these exercises, namely, neatness and accuracy. A letter should occasionally be written on the blackboard by the teacher as a model for the pupils, showing the form, how to begin and end it, how to write the address, etc.

In giving these exercises, of course the leading points should be indicated, and the description of these points should form paragraphs. If possible a "letter" should be given for a home exercise, written on paper and inclosed in an envelope, and addressed to the teacher. This is a valuable piece of training, if we may draw conclusions as to the necessity of it from letters occasionally received by teachers.—*Popular Educator.*

## Educational Notes and News.

THERE are two chairs of Pedagogy in Scotland, one at the University of Edinburgh, and the other at the University of St. Andrews.

CHAIRS of Pedagogy have been established in the Universities of Iowa, Wisconsin, Michigan, Cornell, John Hopkins, and Ohio.

LORD BRASSEY, who was member of Parliament for Hastings for nearly twenty years, has formally handed over to the corporation, as a memento of his interest in the borough, the school of art buildings, the cost of which was about £15,000.

THERE is no professorship of Pedagogy in any University of England, Wales, or Ireland. The Universities of Cambridge and London give certificates or diplomas to those who pass special examinations provided for teachers, but they confer no educational degrees.

IN the native schools of Egypt the children are all seated on the floor in a large room, the teacher being on the platform with a long stick. The principal study pursued is that of the Koran, or Mohammedan Bible, and three or four times a many hours are spent at this as at any other study.—*Christian Register.*

AN inquest was held on Saturday evening, before the Nottingham coroner, on the body of Lucy Boulby, eight years of age, who died on Thursday. Dr. Herbert Taylor said he had attended the child for a fortnight before her death, and had made a post-mortem examination of the body. He attributed death to overwork at school, which had caused tubercular inflammation of the membrane of the brain, the organ having originally been delicate. A verdict in accordance with the medical evidence was returned.—*The Schoolmaster.*

\*See JOURNAL of Sept. 1.

BARBADOS, in the West Indies, has now two representatives at Ontario Business College, Belleville. Two sons of Mr. Edward T. Grannum, a member of the Legislature of Barbados, representing the city of Bridgetown, arrived a week or two since. The voyage to New York occupied over seven days. They are the first of a stream of students expected from Barbados, such as the College has had from Bermuda for the past few years.

"My mind seems to have become a kind of machine for grinding general laws out of large collections of facts. . . . If I had to live my life again I would make a rule to read some poetry and listen to some music at least once every week. . . . The loss of these tastes is a loss of happiness, and may possibly be injurious to the intellect, and more probably to the moral character by enfeebling the emotional part of our nature."—*Darwin's Autobiography*.

A YOUNG woman named Cornelia Sorabji was lately graduated as Bachelor of Arts, from the Bombay University. She was appointed Fellow of the Ahmedabad Arts College, and has entered on her duties as a college tutor. It is not a little remarkable that in so conservative a country as India, where municipal school committees will not entrust the education of even little girls to women, a young woman is thus made the teacher of young men in college.

THE *Critic* complains in a recent issue that in this country and England the study of English literature has been steadily subordinated to the study of philology. It calls the "English" departments of our universities "philological kites, dragging the slender tail of literature," and asserts that the results of this study of English are a smothering of a desire for production, almost a total ignorance of the great creations of human intellect, and a general tendency toward antiquarianism in thought and expression.

HANNAH MORE, when she was told a tale against any one in her village, usually answered, "Come, we will go and ask if that be true." The effect was something wonderful. The tale-bearer, taken aback, would begin to say, "Well, perhaps there may have been a mistake," and beg that no notice be taken of the matter. But no, the good lady would go there and then, taking the scandal-monger with her, to make inquiry and compare accounts. If all tale-bearers could be treated in this way, few tales would be told.

THE women students at Cornell are jubilant over the fact that one-half of the scholarships given this year were won by women. Rather curiously, too, the scholarships in question were given as prizes for the best records in mathematics, architecture and botany, two branches at least in which the masculine mind has been held to be invincible. The examinations were impartial, and the papers of the fair competitors are pronounced among the best that have ever been submitted. Here's to you, ye star-eyed goddesses of classic Utica.—*Educational News*.

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1888-1889.

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- " LXXXVIII. *Lovell*—The Robin.
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- " LXXXV. *Rosetti*—The Cloud Confines.
- " LXXXIX. *Tennyson*—The Lord of Burleigh.
- " LXXX. " "Break, break, break."
- " LXXXI. " "The Revenge."
- \* " CI. *Swinburne*—The Forsaken Garden.

*Latin*—*Cæsar*—Bellum Gallicum, I., 1-33.  
*French*—De Fivas' Introductory French Reader.  
*German*—High School German Reader (Grimm, Kinderund-Haus-Märchen.)]

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- Latin*—*Cicero*—In Catilinam I.
- Virgil*—Æneid V.
- Cæsar*—Bellum Gallicum I., 1-33.
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- German*—*Hauff*—Das Kalte Herz.
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- German*—*Schiller*—Belagerung von Antwerpen (Clarendon Press Series.)  
Die Kraniche des Ibycus.

EDUCATION DEPARTMENT,  
 ONTARIO, July, 1888.

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\* Those selections marked with an asterisk will be repeated for 1889-90.

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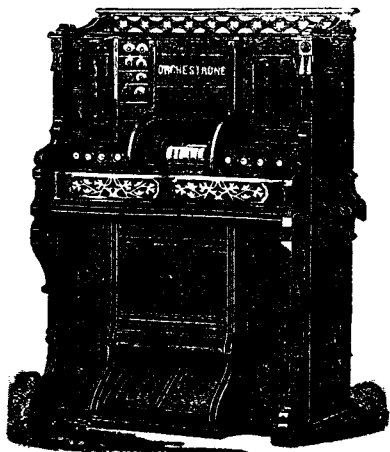
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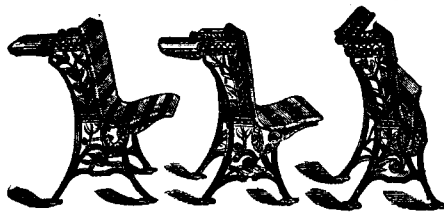
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