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THE CANADA
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LITERARY STYLE.*

BY W. MATHEWS, LL.D., CHICAGO.

WITHIN a few years a fresh interest has been awakened, among writers and critics, in literary style. It is beginning to be felt more keenly than for a long time before, that, as the value of the materials of a building, whatever their cost, depends mainly upon the skill with which they are put together, so in literary architecture it is the manner in which the ideas are fitted together into a symmetrical and harmonious whole, as well as adorned and embellished, that, quite as much as the ideas themselves, constitutes the worth of an essay, an oration, or a poem. As the diamond or the emerald—even the Kohinoor itself—has little beauty as it lies in the mine, but must be freed from its incrustations, and cut and polished by the lapidary, before it is fit to blaze in the coronet

of a queen, or to sparkle on the breast of beauty, so thought in the ore has little use or charm, and sparkles and captivates only when polished and set in cunning sentences by the literary artist. But there is another and more potent reason for the growing estimation of style. As an instrument for winning the public attention, for saving the reader all needless labour, and for keeping a hold on the grateful memory, its value cannot be easily exaggerated. A hundred years ago, in the days of stage-coaches and Ramage presses, when literature did not come to us in bales, and to be a man of one book was no disgrace, style might have been regarded as a luxury; but in this age of steam-presses and electrotype-printing, with its thousand distractions from study, and its deluge of new publications that must be skimmed by all who would keep abreast with the intelligence of the time, this element of literature is swiftly acquiring a new

* From "Literary Style, and other Essays," by W. Mathews, LL.D., author of "Getting on in the World," etc. Chicago: S. C. Griggs & Co., 1881.

utilitarian value. When we consider that Germany alone prints 15,000 books a year; that one library only—the National at Paris—contains 150,000 acres of printed paper; that in one ramified science, e.g. chemistry, the student needs fourteen years barely to overtake knowledge as it now stands,—while, nevertheless, the two lobes of the human brain are not a whit larger to-day than in the days of Adam; that, even after deducting all the old books which the process of “natural selection” and the “survival of the fittest” has spared us from reading, the remnant even of literary and other masterpieces, which cannot be stormed by the most valiant reader, but must be acquired by slow “sap,” is simply appalling; and, finally, that even the labour-saving machinery of periodical literature, which was to give us condensations and essences in place of the bulky originals, is already overwhelming us with an inundation of its own,—it is easy to see that the *manner* in which a writer communicates his ideas is hardly less important than the ideas themselves.

But what, it may be asked, do we mean by style? We shall not attempt any technical definition, but simply say that by it we understand, first of all, such a choice and arrangement of words as shall convey the author's meaning most clearly and exactly, in the logical order of the ideas; secondly, such a balance of clause and structural grace of sentence as shall satisfy the sense of beauty; and, lastly, such a propriety, economy, and elegance of expression, as shall combine business-like brevity with artistic beauty. All these qualities will be found united in style of the highest order; and therefore style has been well defined as an artistic expedient to make reading easy, and to perpetuate the life of written thought.

Style, in this sense, is, and ever has been, the most vital element of liter-

ary immortality. If we look at the brief list of books which, among the millions that have sunk into oblivion, have kept afloat on the stream of time, we shall find that they have owed their buoyancy to this quality. More than any other, it is a writer's own property; and no one, not even time itself, can rob him of it, or even diminish its value. Facts may be forgotten, learning may grow commonplace, startling truths dwindle into mere truisms; but a grand or beautiful style can never lose its freshness or its charm. It is the felicity and idiomatic *naïveté* of his diction that has raised the little fishing-book of Walton, the linen-draper, to the dignity of a classic, and a similar charm keeps the writings of Addison as green as in the days of Queen Anne. Even works of transcendent intellectual merit may fail of high success through lack of this property, while works of second and even third-rate value—works which swarm with pernicious errors, with false statements and bad logic—may obtain a passport to futurity through the witchery of style. The crystal clearness and matchless grace of Paley's periods, which were the envy of Coleridge, continue to attract readers, in spite of his antiquated science and dangerous philosophy; and a similar remark may be made of Bolingbroke. The racy, sinewy, idiomatic style of Cobbett, the greatest master of Saxon-English in this century, compels attention to the arch-radical to-day as it compelled attention years ago. Men are captivated by his style, who are shocked alike by his opinions and his egotism, and offended by the profusion of italics which, like ugly finger-posts, disfigure his page, and emphasize till emphasis loses its power. For the pomp and splendour of his style, “glowing with oriental colour, and rapid as a charge of Arab horse,” even more than for his colossal erudition, is Gibbon admired; it is

"the ordered march of his lordly prose, stately as a Roman legion's," that is the secret of Macaulay's charm; and it is the unstudied grace of Hume's periods which renders him, in spite of his unfairness and defective erudition, in spite of his Toryism and infidelity, the popular historian of England.

Dr. Johnson, writing in the "Idler" upon the fate of books, declares that if an author would be long remembered, he must choose a theme of enduring interest; but the interest with which the "Provincial Letters" are read to-day, by men who never look into the pages of the "Rambler" or the "Vanity of Human Wishes," shows that the manner in which a subject is treated is often of more importance than the matter. It is one of the most signal triumphs of genius that it can thus not only overcome the disadvantages of a topic of ephemeral interest, but even gives permanent popularity to works which the progress of knowledge renders imperfect; that it can so stamp itself upon its productions, and mould them into beauty, as to make men unwilling to return the gold to the melting-pot, and work it up afresh. What is it but the severe and exquisite beauty of their form which has given such vitality to the ancient classics, that time, which "antiquates antiquity itself," has left them untouched? Why do we never tire of lingering over the pages of Virgil, unless we are drawn to them by "the haunting music of his verse, the rhythm and fall of his language?" "The ancients alone," it has been truly said, "possessed in perfection the art of *embalming* thought. The severe taste which surrounds them has operated like the pure air of Egypt in preserving the sculptures and paintings of that country; where travellers tell us that the traces of the chisel are often as sharp, and the colours of the paintings as bright, as if

the artists had quitted their work but yesterday."

In works of art, or pure literature, the style is even more important than the thought, for the reason that the style is the artistic part, the only thing in which the writer can shew originality. The raw material out of which essays, poems and novels are made, is limited in quantity, and easily exhausted. The number of human passions upon which changes can be rung is very small; and the situations to which their play gives rise may be counted on the fingers. Love returned and love unrequited, jealousy and envy, pride, avarice, generosity and revenge, are the hinges upon which all poems and romances turn, and these passions have been the same ever since Eden. I live, I love,—I am happy, I am wretched,—I was once young,—I must die,—are very simple ideas, of which no one can claim a copyright; yet out of these few root-ideas has flowed all the poetry the world knows, and all that it ever will know. In Homer and Virgil, Plautus and Terence, we have an epitome of all the men and women on the planet, and the writer who would add to their number must either repeat them or portray monstrosities. Joubert felt this when he cried; "Oh, how difficult it is to be at once ingenious and sensible!" La Bruyère, long before him, had felt it when he exclaimed: "All is said, and one comes too late, now that there have been men for seven thousand years, and men that have thought." It is common to talk of originality as the distinguishing mark of genius, when, on the contrary, it is essentially receptive and passive in its nature. Its power lies, not in finding out new material, but in imparting new life to whatever it discovers, new or old; not in creating its own fuel, but in fanning its collected fuel into a flame. All the thought, the stuff or substance, of a new poem or essay, is necessarily

commonplace. The thing said has been said in some form a thousand times before; the writer's merit lies in the *way* he says it. We talk, indeed, of *creative* intellects, but only Omnipotence can create; man can only *combine*. As Praxiteles, when he wrought his statue of Venus, did not produce it by a pure effort of the imagination, but selected the most beautiful parts of the most beautiful figures he could obtain as models, and combined them into a harmonious whole, so, to a great extent, are literary masterpieces produced. Wherein lies the charm of the "golden-mouthed" Jeremy Taylor? Is it in the absolute novelty of his thoughts?—or is it not rather in the fact that, as De Quincey says, old thoughts are surveyed from novel stations and under various angles, and a field absolutely exhausted throws up eternally fresh verdure under the fructifying lava of burning imagery? Even the wizard of Avon can strictly produce nothing new; he can only call in the worn coin of thought, melt it in his own crucible, and issue it with a fresh superscription and an increased value.

What would De Quincey be without his style? Rob him of the dazzling fence of his rhetoric, his word-painting, and rhythm—strip him of his organ-like fugues, his majestic swells and dying falls—leave to him only the bare, naked ideas of his essays,—and he will be De Quincey no longer. It would be like robbing the rose of its colour and perfume, or taking from an autumnal landscape its dreamy, hazy atmosphere and its gorgeous dyes. Take the finest English classic, *The Fairy Queen*, *L'Allegro* or *Il Penseroso*, *Midsummer Night's Dream*; strip it of music, colour, wit, alliteration—the marriage of exquisite thoughts to exquisite language—all that belongs to form as distinguished from the substance—and what will the residuum be? All

the ideas in these works are as old as creation. They were everywhere in the air, and any other poet had as good a right to use them as Milton, Spenser, and Shakspeare. That critical mouser, the Rev. John Mitford, in his notes to Gray's poems, has shewn that hardly an image, an epithet, or even a line in them originated with the ostensible author. Gray cribbed from Pope, Pope from Dryden, Dryden from Milton, Milton from the Elizabethan classics, they from the Latin poets, the Latin from the Greek, and so on till we come to the original Prometheus, who stole the fire directly from heaven. But does this lessen the merit of these authors? Grant that the finest passages in poetry are to a great extent but embellished recollections of other men's productions, does this detract one jot or tittle from the poet's fame? The great thinkers of every age do not differ from the little ones so much in having different thoughts, as in sifting, classifying and focalizing the same thoughts, and, above all, in giving them to the world in the pearl of exquisite and adequate expression. Give to two painters the same pigments, and one of them will produce a "Transfiguration," and the other will exhaust his genius upon the sign-board of a country tavern; as out of the same stones may be reared the most beautiful or the most unsightly of edifices—the Parthenon of Athens, or an American Court-House.

What is the secret of the popularity of our leading journals? Is it their prodigious wisdom, their prophetic sagacity, the breadth and accuracy of their knowledge, their depth and range of thought—in short, their grasp of the themes they discuss? No; the newspaper which each man reads with the most delight is that which has mastered most perfectly the art of putting things; which flatters his self-esteem by giving to his own inchoate ideas artistical development and ex-

pression : which, in short, is a mirror in which Jones or Brown can see with his own eyes the Socrates he has taken himself to be.

Perhaps no other writer of the day has more powerfully influenced the English-speaking race than Carlyle. Beyond all other living men he has, in certain important respects, shaped and coloured the thought of his time. As a historian, he may be almost said to have revolutionized the French Revolution, so different is the picture which other writers have given us from that which blazes upon us under the lurid torchlight of his genius. To those who have read his great prose epic, it will be henceforth impossible to remember the scenes he has described through any other medium. As Helvellyn and Skiddaw are seen now only through the glamour of Wordsworth's genius—as Jura and Mont Blanc are transfigured, even to the tourist, by the magic of Byron and Coleridge—so to Carlyle's readers Danton and Robespierre, Mirabeau and Tinville, will be forever what he has painted them. No other writer equals the great Scotchman in the Rembrandt-like lights and shadows of his style. While, as Mr. McCarthy says, he is endowed with a marvellous power of depicting stormy scenes and rugged, daring natures, yet "at times, strange, wild, piercing notes of the pathetic are heard through his fierce bursts of eloquence, like the wail of a clarion thrilling beneath the blasts of a storm." His pages abound in pictures of human misery sadder than poet ever drew, more vivid and startling than artist ever painted. In his conflict with shams and quackeries he has dealt yeoman blows, and made the bankrupt institutions of England ring with their own hollowness. What is the secret of his power? Is it the absolute *novelty* of his thoughts? In no great writer of equal power shall we find such an absolute dearth of new

ideas. The gospel of noble manhood which he so passionately preaches is as old as Solomon. Its cardinal ideas have been echoed and re-echoed through the ages till they have become the stalest of truisms. That brains are the measure of worth; that duty, without reward, is the end of life; that "work is worship"; that a quack is a falsehood incarnate; that on a lie nothing can be built; that the victim of wrong suffers less than the wrong-doer; that man has a soul which cannot be satisfied with meats or drinks, fine palaces and millions of money, or stars and ribands; this is the one single peal of bells upon which the seer of Chelsea has rung a succession of changes, with hardly a note of variation, for over half a century.

Anything more musty or somniferous than these utterances, so far as their substance is concerned, can hardly be found outside of Blair's Sermons. Coming from a common writer, they would induce a sleepiness which neither "poppy, mandragora, nor all the drowsy sirups of the world" could rival in producing. But preached in the strong, rugged words, and with the tremendous emphasis of Carlyle—enforced by sensational contrasts and epic interrogations—made vivid by personification, apostrophe, hyperbole, and enlivened by pictorial illustration—these old saws, which are really the essence of all morality, instead of making us yawn, startle us like original and novel fancies. His imagination transfigures the meanest things, and conveys the commonest thoughts in words that haunt the memory. In his fine characterizations of Schiller and Alfieri, how admirably he contrasts the two men: "The mind of the one is like the ocean, beautiful in its strength, smiling in the radiance of summer, and washing luxuriant and romantic shores; that of the other is like some black, unfathomable lake placed far 'mid the melancholy moun-

tains; bleak, solitary, desolate, but girdled with grim sky-piercing cliffs, overshadowed with storms, and illuminated only by the red glare of the lightning." How vividly by a few suggestive words he brings Johnson before us—not the Johnson of Macaulay, the squalid, unkempt giant in dirty linen, with straining eye-balls, greedily devouring his victuals—not the husk or *larvæ* of the literary leviathan, the poor scrofula-scarred body without the soul, but Johnson "with his great greedy heart and unspeakable chaos of thoughts; stalking mournful on this earth, eagerly devouring what spiritual thing he could come at"—in short, the grand old moral hero as he *is*, in the very centre and core of his being! A kind of grim Cyclopean humour gives additional pungency to Carlyle's style, which—"if it is a Joseph's coat of many colours, is dyed red with the blood of passionate conviction." Cherishing, and even parading, an utter contempt for literary art, he sacrifices truth itself to be artistical, and is, in fact, with many glaring faults, one of the greatest literary artists of the time.

Why, to take an opposite illustration, has John Neal, in spite of his acknowledged genius, been so speedily forgotten by the public whose eye he once so dazzled?—why, but because, holding the absurd theory that a man should write as he talks, and despising the niceties of skill, he bestows no artistic finish on his literary gems, but, like the gorgeous East,

"shows from his lap
Barbaric pearls and gold."

with all their incrustations "thick upon them?" With less prodigality of thought and more patience in execution, he might have won a broad and enduring fame; but, as it is, he is known to but few, and by them viewed as a meteor in the literary firmament, rather than as a fixed star or luminous

planet. Washington Irving has probably less genius than Neal; but by his artistic skill he would make more of a Scotch pebble than Neal of the crown jewel of the Emperor of all the Russias.

That we have not exaggerated the value of style—that it is, in truth, an alchemy which can transmute the basest metal into gold—will appear still more clearly if we compare the literatures of different nations. That there are national as well as individual styles, with contrasts equally salient or glaring, is known to every scholar. Metaphors and similes are racy of the soil in which they grow, as you taste, it is said, the lava in the vines on the slopes of *Ætna*. As *thinkers*, the Germans have to-day no equals on the globe. In their systems of philosophy the speculative intellect of our race—its power of long, concatenated, exhaustive thinking—seems to have reached its culmination. Never content with a surface examination of any subject, they dig down to the "hard pan," the eternal granite which underlies all the other strata of truth. As compilers of dictionaries, as accumulators of facts, as producers of thought in the ore, their book-makers have no peers. The German language, too, must be admitted to be one of the most powerful instruments of thought and feeling to which human wit has given birth. But all these advantages are, to a great extent, neutralized by the frightful heaviness and incredible clumsiness of the German literary style. Whether as a providential protection of other nations against the foggy metaphysics and subtle scepticism of that country, or because to have given it a genius for artistic composition as well as thought, would have been an invidious partiality, it is plain that, in the distribution of good things, the advantages of form were not granted to the Teutons. In Bacon's phrase, they are "the Her-

culeses, not the Adonises of literature." They are, with a few noble exceptions, the hewers of wood and drawers of water for all the other literatures of the world. The writers of other countries, being blessed more or less with the synthetic and artistic power which they lack, pillage mercilessly, without acknowledgment, the storehouses which they have laboriously filled, and dressing up the stolen materials in attractive forms, pass them off as their own property. It is one of the paradoxes of literary history, that a people who have done more for the textual accuracy and interpretation of the Greek and Roman classics than all the other European nations put together—who have taught the world the classic tongues with pedagogic authority—should have caught so little of the inspiration, spirit, and style of those eternal models.

The fatigue which the German style inflicts upon the human brain is even greater than that which their barbarous Gothic letter, a relic of the fifteenth century, blackening all the page, inflicts upon the eye. The principal faults of this style are involution, prolixity, and obscurity. The sentences are interminable in length, stuffed with parentheses within parentheses, and as full of folds as a sleeping boa-constrictor. Of paragraphs, of beauty in the balancing and structure of periods, and of the art by which a succession of periods may modify each other, the German prose-writer has apparently no conception. Instead of breaking up his "cubic thought" into small and manageable pieces, he quarries it out in huge, unwieldy masses, indifferent to its shape, structure or polish. He gives you real gold, but it is gold in the ore, mingled with quartz, dirt and sand, hardly ever gold polished into splendour, or minted into coin. Every German, according to De Quincey, regards a sentence in the light of a package,

and a package not for the mail-coach, but for the waggon, into which it is his privilege to crowd as much as he possibly can. Having framed a sentence, therefore, he next proceeds to pack it, which is effected partly by unwieldy tails and codicils, but chiefly by enormous parenthetical involutions. All qualifications, limitations, exceptions, illustrations, and even hints and insinuations, that they may be grasped at once and presented in one view, are "stuffed and violently rammed into the bowels of the principal proposition." What being of flesh and blood, with average lungs, can go through a book made up of such sentences, some of them twenty or thirty lines in length, with hardly a break or a solitary semicolon to relieve the eye or cheat the painful journey, without gasping for breath, and utterly forgetting the beginning, especially when a part of the poor dislocated verb, upon which the whole meaning of the sentence hinges, is withheld till the close? Rufus Choate, had a genius for long periods; his eulogy on Webster contains one which stretches over more than four pages; but even he yields to Kant. It is said that some of the latter's sentences have been carefully measured by a carpenter's rule, and found to measure two feet eight by six inches. Who, but a trained intellectual pedestrian, a Rowell or Weston, could hope to travel through such a labyrinth of words, in which there is sometimes no halting-place for three closely-printed octavo pages, without being foot-sore, or bursting a blood-vessel? Is it strange that other people, who do not think long-windedness excusable because Kant has shewn that time and space have no actual existence, but are only forms of thought, are offended by a literature that abounds in such Chinese puzzles? Can we wonder that the German bullion of thought, however weighty

or valuable, has to be coined in France before it can pass into the general circulation of the world?

In direct contrast to the heavy, dragging German style, is the brisk, vivacious, sparkling style of the French. All the qualities which the Teutons lack—form, method, proportion, grace, refinement, the stamp of good society—the Gallic writers have in abundance; and these qualities are found not only in the masters, like Pascal, Voltaire, Courier, or Sand, but in the second and third-class writers, like Taine and Prevost-Paradol. Search any of the French writers from Montaigne to Renan, and you will have to hunt as long for an obscure sentence as in a German author for a clear one. Dip where you will into their pages, you find every sentence written as with a sunbeam. They state their meaning so clearly, that not only can you not mistake it, but you feel that no other proper collocation of words is conceivable. It is like casting to a statue—the metal flows into its mould, and is there fixed for ever. If, in reading a German book, you seem to be jolting over a craggy mountain road in one of their lumbering *eisenwagen*, ironically called “post-haste” chaises, in reading a French work you seem to be rolling on C springs along a velvety turf, or on a road that has just been macadamized. The only drawback to your delight is, that it spoils your taste for other writing; after sipping Château-Margaux at its most velvety age, the mouth puckers at Rhine wine or Catawba. This supremacy of the French style is so generally acknowledged, that the French have become for Europe the interpreters of other races to each other. They are the Jews of the intellectual market—the money-changers and brokers of the wealth of the world. The great merits of Sir William Hamilton were unknown to his countrymen till they were revealed by the kindly pen of

Cousin; and Sydney Smith hardly exaggerated when he said of Dumont's translation of Bentham, that the great apostle of utilitarianism was washed, dressed, and forced into clean linen by a Frenchman before he was intelligible even to English Benthamites. It is sometimes said that French literature is all style; that its writers have laboured so exclusively to make the language a perfect vehicle of wit and wisdom, that they have nothing to convey. If in a German work the meaning is entangled in the words, and “you cannot see the woods for the trees,” in the French work the words themselves are the chief object of attention. But the critic who says this is surely not familiar with Pascal, Bossuet, D'Alembert, De Staël, De Maistre, Villemain. In these, and many other writers that we might name, there is such a solidity of thought with an exquisite transparency of style, so subtle an interfusion of sound and sense, so perfect an equipoise of meaning and melody, as to satisfy alike the artistic taste of the literary connoisseur and the deeper cravings of the thinker and the scholar. The real weakness of the French to-day is their Chinese isolation and exclusiveness, their ignorance of other nations, their want of cosmopolitan breadth, and of all the other qualities which men that hug their own fire-sides—that live, as Rabelais says, all their lives in a barrel, and look out only at the bung-hole—are sure to lack. Rooted to their native soil, seeing no countries or peoples, and despising all literatures but their own, they lose the comparative standpoint, which it has been said truly, is the great conquest of our century—which has revolutionized history, and created social science and the science of language. There is a saying of Buffon's that “the style is of the man”—not, as so often quoted, “the style is the man”—which is but a

repetition of the saying of Erasmus, *qualis homo, talis oratio*; as is the man, so is his speech. As we form our impressions of men, not so much from what they actually say, as from their way of saying it—their looks, manner, tones of voice, and other peculiarities—so we catch glimpses of an author between the lines, and detect his idiosyncrasies even when he tries hardest to hide them. The latent disposition of the man peeps through his words, in spite of himself, and vulgarity, malignity, and littleness of soul, however carefully cloaked, are betrayed by the very phrases and images of their opposites. Marivaux declares that style has a sex; but we may go farther, and say that literature has its comparative anatomy, and a page or a paragraph will enable a skilful hand to construct the skeleton. "Every sentence of the great writer," says Alexander Smith, "is an autograph. If Milton had endorsed a bill with half-a-dozen blank verse lines; it would be as good as his name, and would be accepted as good evidence in court." How plainly do we see in the swallowlike gyrations of Montaigne's style the very veins, muscles and tendons of his moral anatomy! How glaringly he betrays his self-complacency by the very air and tone of his self-humiliations! Again: how visibly do the despotic will, the imperial positiveness and the oriental imagination of Napoleon stamp themselves on his style—in that hurried, abrupt rhythm, under which, as Sainte-Beuve says, we feel palpitating the genius of action and the demon of battles! What perfect simplicity characterizes the writings, as it does the actions of Julius Cæsar! His art is unconscious, as the highest art always is, and his style has been well compared by Cicero to an undraped human figure, perfect in all its lines as nature made it.

How grave, courtly, and high-mannered, how politic and guarded, like

himself, are the utterances of Bacon! What serenity of temper is expressed in "the sleepy smile that lies so benignly on the sweet and serious diction of Izaak Walton!" What haughtiness and savage impatience of contradiction,—what egotism and contempt of conventional opinions,—are stamped on the plain, blunt and often coarse periods of Swift; and, on the other hand, what an urbanity reveals itself in the almost perfect manner, so easy and high-bred—courteous, not courtier-like, as Bulwer says—of the gentle Addison! It has been happily said that there is no gall in his ink, and, if it kills, it is after the manner of those perfumed poisons which are less grateful than deadly: Again, what fierceness breathes in the short, daggerlike sentences of Junius; and how, on the contrary, the shyness of Lamb's nature—his love of quip, and whimsey, and old black-letter authors—peeps out in his style, with its antique words, and quaint convolutions, and doublings back on itself! Dean Swift would have torn to pieces a lamb like a wolf; but the loving "Elia" would have tried to coax a wolf into a lamb. How quickly "South is discovered by the lash of a sentence, and Andrews by the mechanism of his exposition!" Did any mirror, even of French plate glass, ever reflect any man's outer configuration more vividly and distinctly than the strange inner nature of Sir Thomas Browne is mirrored in his periods? What a revelation we have of his inmost self—what a picture of his wit, imagination, portentous memory, insatiable curiosity, "humorous sadness," pedantry, and love of crotchets and hobbies, even "a whole stable-full"—in the quaint analogies, the grotesque fancies, the airy paradoxes, the fine and dainty fretwork, the subtle and stately music, the amazing Latinisms, and the riotous paradoxes and eloquent epigrams of the old knight's style! Again, how

plainly the hard, severe, antique cast of Guizot's intellect is seen in his manner of writing, which is so weighty and impressive, but never picturesque or playful! How fit a vehicle is it for the thoughts of that lofty mind whose

ideas, as soon as they enter it, lose their freshness and become antique—of whom it has been said: "That which he has known only since morning he appears to have known from all eternity!"

(To be continued.)

SCHOOL LEGISLATION.*

BY D. C. M'HENRY, M.A., PRINCIPAL, COLLEGIATE INSTITUTE, COBOURG.

THE recognition on the part of the State of its proper obligations in providing educational facilities for the people lies at the foundation of all our school legislation.

There is a period in the history of every civilized country when first this duty is recognized and assumed by the State, before which time all the education furnished is provided by private enterprise or through ecclesiastical channels.

The earliest schools were those of the priests. Those of Egypt and Judæa, for example, were ecclesiastical. The same is true of the early forms of education in Greece and Rome, in the former of which we find first developed a science of education apart from ecclesiastical training. The Romans are said to have understood no *systematic* training except in oratory. The education of the Middle Ages we know was largely that of cloister and castle. And although by the Reformation great changes were effected there was no general legislation for the people in this direction. Educational privileges were accessible only to the few. So slowly has this special form of legislation developed that even

to-day in England it is only purely elementary instruction that is regulated by law—the universities and endowed schools being largely under the control of private corporations, and not subject to State authority.

Until 1870 elementary education also was dependent on voluntary enterprise. At that date a certain amount was granted, not to establish a system of public schools, but to aid a limited number of existing private schools. Four years ago a step was taken in advance—the State providing instruction, at least in *the three R's*, for every child; though a fee is charged even for this.

Coming to our own country, the first step taken towards legislation for schools was in 1789, when public lands were set apart for a certain number of Grammar Schools.

In 1816 Common Schools were first brought into existence in Canada, \$30,000 a year being granted them. Local Boards of Trustees were then first established. Our present system of Public Schools was regularly established in 1841, the Legislature appropriating, that year, \$200,000 towards their support. In 1844 Dr. Ryerson was appointed Chief Superintendent of Education, and, after visiting the leading countries of Europe, he introduced

* Outline of an Address delivered at the Northumberland Teachers' Convention, and published by request of the Association.

his comprehensive Bill of 1850, at which time our system assumed substantially its present form.

As is well known, under Dr. Ryerson's administration, the executive power was vested in the Council of Public Instruction—a body of eighteen members—the Chief Superintendent or his Deputy, eight members appointed by the Crown, one by each degree-granting college, one as representative of the High School masters, one representing the Public School teachers, and one from among the Public School inspectors—each member holding office for three years.

All the legislation which took place for about thirty years was practically effected through this Council, representing as it did, all the various educational interests of the country.

When any question of special importance was about to be proposed, the Free School System, for example, the Chief Superintendent visited the various counties, and by personal intercourse with the people, fully ascertained the wants of the country, and the drift of public opinion. As this generally *preceded* the introduction of radical changes, very few crude measures were introduced.

The next important change took place in 1876, when a responsible Minister succeeded the Chief Superintendent and the functions of the representative advisers of the Chief were transferred to a Committee appointed by the Executive Council.

This change was recommended, it is said, by Dr. Ryerson, on the eve of his retirement; yet we are not certain that his recommendation was based on a decided preference for the present form of administration. It arose partly from practical difficulties in securing a suitable successor. Be that as it may, after four years' experience, we are able to form some idea of the comparative merits of the two systems.

I venture to say, in a word, that the

fears expressed when this change was proposed, have to some extent been realized.

It was feared, you remember, that it might imperil the best interests of education to transfer the discussion of school matters from the quiet circle of the Council to the stormy arena of party politics. Those who have closely followed the discussions in the Legislature, on educational topics, must feel that this fear was not altogether without foundation. On few subjects have more crudities been presented than on this. It would seem that, while nearly every member feels called upon to offer suggestions, there are comparatively few sufficiently acquainted with the details of educational work to discuss profitably such matters as are every session brought up in debate. From the general character of these discussions, and the results as seen in the form of legislative enactments, we are led to think that the change of 1876 was ill-advised and not promotive of the best interests of education.

So far reference has been made only to such results as arise from assuming that School legislation can be dealt with in the same way that is found safe in the case of ordinary legislation.

It was feared also that educational interests might be made subservient to political ends. And it was only reasonable to suppose that a measure introduced, say by the Minister of Education, might meet with opposition, merely from party considerations; that the party in power might be tempted to look with suspicion on any educational measures proposed by those in opposition. This is but natural, and, I believe, to a great extent inevitable. Not that either party would deliberately sacrifice educational interests to party interests, but it is almost impossible to avoid it. Witness, for example, the almost uni-

form opposition offered by several members to suggestions from the Government. Notice, also, the vacillating character of certain Government measures; the changes urged and privileges claimed by members in the interests of certain Societies; the clauses framed to meet the pressing but newly-discovered necessities of certain portions of the community; the cases of undue influence said to have been brought to bear on local members by interested parties, in one or two cases overruling the legitimate action of County Inspectors. How can we look at such a condition of things with satisfaction? Must we not conclude that the step taken is decidedly retrograde?

In all this I censure no one in particular. The same temptations and influence now felt by the Government and the Opposition would be felt if they were to exchange places. And little improvement need be looked for until certain safeguards are restored, among which I would place: (1) *a permanent chief officer*, one not liable to be changed with every change of Government; (2) some definite form of *representation* on what corresponds to the Council.

Until educational matters are removed from the dangers that now beset them, we may expect that every winter there will be placed on our statute-books laws so crudely framed that a good deal of the following winter's session will be given (so far as educational legislation is concerned) first to amendments, and secondly to the production of measures as hastily digested, resulting, if not checked, in what a certain writer calls "the created evils of legislation, which sap the efficiency of education."

Among the questions likely to claim your attention are the Superannuation Fund, Training and Examining of Teachers, Vacations, and the restrictions placed on trustees in raising funds for school purposes.

Taking these in the reverse order,

I shall merely offer one or two suggestions on each, leaving them with the Convention for fuller discussion.

In giving municipal councils the veto power, it is assumed that Boards of Trustees are less competent to decide as to the educational wants of the community than those elected as Councillors. It also seems to imply that the latter are, in a somewhat exclusive sense, the sole guardians of the municipal revenues. As you are aware, the Minister has yielded to the demand for a modification of this clause, and it has been slightly improved. The educational interests of every town and city were liable to be sacrificed to a policy of false economy on the part of ward politicians. The old law recognized the well-known fact that, as a matter of course, persons especially selected as school trustees are, from their position, better qualified to judge of the educational requirements of a town or city than municipal councillors. To suppose otherwise would be about as reasonable as to add to the duties of trustees that of locating and building sidewalks and bridges. Rather let each body keep to its own sphere of action, and the interests of the entire community will be best secured.

The now notorious vacation clause we regard as an evidence of hasty and ill-timed legislation, brought about to gratify a certain class, who seem to think that the services of the person who teaches their children are to be computed after the method they adopt in case of harvest hands, men ditching their farms, or breaking stone on their roads—the value being directly in proportion to the number of hours actually spent at the toil. The very general disfavour with which this clause is received will doubtless result in its repeal. It is a question whether, under the old system of legislation, such a measure could have been placed on our statute-book.

The recent change affecting the examination of Third Class Teachers is decidedly radical, but it is one of which I can approve, *provided* that such an examination of papers can be secured as shall not delay the announcing of results, and if there can be secured the same care and accuracy in examining the papers of the four or five thousand candidates expected this year as was attainable when the work was done by County Boards. The comparative expensiveness of the two methods must also be taken into account.

The tendency, we know, is towards *centralization*. There is such a thing as centralization for the sake of uniformity, which may be good, if not carried too far. It is possible there may be uniformity for the sake of centralization, which is evil and only evil.

I think the time has arrived when the standard for Third Class Teachers may be raised, to the benefit of teachers 'themselves' and all concerned. The law of supply and demand must be recognized; and certainly there is no lack at present of qualified teachers. In fact there is scarcely standing-room in our ranks. In some localities there is great competition, much of which is neither dignified nor honourable. The design of the present

arrangement is doubtless to place, as far as possible, the schools of Ontario in charge of those who are likely to be permanently engaged in teaching. It is but an experiment, and, until it have a trial, it would be premature rashly to condemn or blindly to approve.

Passing over several matters of recent legislation, allow me to suggest, in closing, that you formulate your views on the question of Superannuation, as requested by the Minister. I regard as objectionable the principle of *compelling* teachers to pay any fixed percentage of their salary, for which they are to receive a fixed annuity. Let the grant be based on the amount *voluntarily* paid in. It seems unjust to compel any class of teachers to contribute to a fund in which they are never likely to participate. To extort two dollars a year from the thousands of female teachers, inspectors, and High School masters, who, it is almost certain, will never receive the slightest return, may be a convenient way of supplementing the Legislative grant to the Fund, but it is a clear case of injustice. Either abandon the entire scheme, or place it on the *voluntary* principle,—those who wish to avail themselves of it receiving an amount proportionate to the amount they have voluntarily contributed.

WE lately heard of the young mother of two or three children who fitted up the brightest room in the house as a nursery, on the plan of the kindergarten. The sunny windows were filled with plants; the walls adorned with the kind of pictures, that would set the little ones inquiring; the "gifts" were in their place; a child's library was provided; while the ceiling was skilfully painted in imitation of the sky. Is not this, on the whole, a better disposal of household space than the regulation "best room," dark as the mammoth cave and musty as a tomb, kept for the occasional entertainment of a guest,

while the children are elbowed off into corners, and compelled to tear through the halls and slide down the banisters in sheer desperation for something to do? The real province of the kindergarten, after all, is in the home.
—*Journal of Education.*

THE most useless of stupidities is the teacher who is a groove-runner; who has swallowed text-books without digesting them, and feeds his pupils with the morsels, as old pigeons feed squabs, until, like himself, they are all victims of a curious synonym for education.—*Ed. Weekly.*

A BOY'S BOOKS, THEN AND NOW—1818, 1881.*—III.

BY HENRY SCADDING, D.D., TORONTO.

(Continued from page 201.)

If r should chance a word to wind up,
 'Tis short in general, make your mind up.
 But far, lar, nar, and ver and fur,
 Par, compar, impar, dispar, cur,
 As long must needs be cited here,
 With words from Greek that end in er;
 Though 'mong the Latins from this fate are
 These two exempted, pater, mater.
 Short in the final er we state 'em,
 Namely auctoritate vatim.

Some awkwardnesses might attend the introduction of such rules as these in our schools; and the disciples of Lily pure and simple, or Ruddiman pure and simple, would probably pronounce them not bracing enough for educational purposes. It would be feared too, perhaps, that the impressions left by them might be evanescent; that "lightly come, lightly go," might have to be written of them hereafter. They would, however, certainly have the effect of exciting an abnormal interest in Latin Grammar. And the reason, we know, why so little profit often accrued to lads from their Latin in former days was, that no genuine personal interest in the subject was ever roused and established in their minds.

In the celebrated Port Royal Latin Grammar of France the rules are given in French verse. I cannot give specimens, which would certainly be curious, as my copy of this work is in English, translated, by Dr. Nugent, who has not attempted to reproduce the French rhymes. The volume, which circulates as the Grammar of

the "Messieurs de Port Royal," was the production of Claude Lancelot, a member of that society of learned recluses. Lancelot was a strong advocate for communicating to the young the facts of Latin grammar in the vernacular tongue; and in regard to his having reduced the rules to French verse he thus speaks: "Therefore still abiding by that principle of common sense, that youth should be taught the rules of Latin in their maternal language, the only one they are acquainted with. . . I have been induced further to think that while I assisted their understandings by rendering things clear and intelligible, at the same time it was incumbent upon me to fix their memories by throwing these rules into verse, to the end they may not have it in their power any longer to alter the words, being tied down to a certain number of syllables of which those verses are composed, and to the jingle of rhyme, which renders them at the same time more easy and agreeable." Lancelot had found that his pupils, after acquiring the substance of Latin grammar, were apt "to take the liberty of changing the arrangement of words, mistaking a masculine for a feminine or one preterite for another; and thus satisfied with repeating nearly the sense of their rules, they imagined themselves masters thereof upon a single reading." Lancelot modestly says of his Grammar that it is merely a

combination of the essential parts of the treatises of Sanctius, a famous Spanish Grammarian, Scioppius, an equally famed Italian one, and Vossius, the Hollander, of whom we have already heard; but his own "Annotations" on each section are the most attractive part of the book, rich in matter, entertaining and instructive; abounding with references to, and occasional corrections of, the older philologists, Donatus, Priscian, Calepinus, Nonius, Alvarez, etc., and apposite quotations, not only from the ordinary classical writers, but from the Vulgate and the Greek and Latin Fathers. The whole work, consisting of two octavo volumes, exhibits at the top of every alternate page the words "New Method" carried forward from the title of the book, which is "A New Method of learning with facility the Latin Tongue," the novelty being the employment of the vernacular instead of Latin. Lancelot closes his "Advertisement" to the Reader in these words, as given by Nugent, whose English since 1772 has become a little antiquated. "As for what regards the present institutions (*i.e.* the contents of the Port Royal Grammar) I believe there are very few but will agree with me, that a great deal of time might be saved by making use of this New Method: and I flatter myself that young beginners at least will be obliged to me for endeavouring to rescue them from the trouble and anxiety of learning Despanter (whose system we have seen was the same as Lily's), for attempting to dispel the obscurity of the present forms of teaching and for enabling them to gather flowers on a spot hitherto overrun with thorns." Claude Lancelot's life extended from 1613 to 1695. Let us do honour to his memory by recording here afresh the rare character given of him by Nugent: "He was naturally of a mild temper, of remarkable sim-

plicity, sincere in his religion, constant in study, fond of retreat, a contemner of glory, fond of peace, and an enemy to all animosities and disputes."

In justice to Lily and the votaries of his system, a favourable testimony which curiously crops up in Borrow's *Lavengro* should not be omitted. In that singular work, the author, after relating that he was compelled in his childhood to learn Lily's Latin Grammar, remarks:—"If I am asked whether I understood anything of what I got by heart, I reply: Never mind; I understand it all now, and believe that no one ever yet got Lily's Grammar by heart when young who repented of the feat at a mature age." It appears that Borrow's father, an officer in the army, had been induced to insist on the accomplishment of this "feat," by an observation made to him by an old-fashioned Grammar School Master, a clergyman, who for a brief space had been put in charge of George. "Captain," the master had said, "I have a friendship for you, and therefore I wish to give you a piece of advice concerning this son of yours. Listen to me. There is but one good school-book in the world, Lily's Latin Grammar. If you can by any means, fair or foul, induce him to get by heart Lily's Latin Grammar, you may set your heart at rest with respect to him. I myself will be his warrant," he added. "I never yet knew a boy that was induced, by fair means or foul, to learn Lily's Latin Grammar by heart, who did not turn out a man, provided he lived long enough." The year of George Borrow's birth was 1803. What he here tells us of the oracular old gentleman, his quondam instructor, and of himself, illustrates well a fixed idea on the subject of educational method in the minds of very many Englishmen of his period.

The eulogy of Captain Borrow's

friend sound's extravagant in our ears. But it must be remembered that within the covers of Lily were included very formal injunctions on other matters besides mere "Grammar" which were as sternly exacted of lads, as memoriter work, as the Syntax itself. It is upon this portion of the contents of Lily and of several of the other old Latin Grammars that I am now about to dilate a little.

I have mentioned more than once Lily's *Carmen de Moribus*, "Song of Manners," which appears in the old Westminster Grammar at the beginning of the Latin portion of the book. This is a code of conduct for the school-boy, consisting of forty-three hexameter and pentameter couplets. The lad is therein enjoined to rise betimes, to make himself clean and tidy, and to go to prayers in the chapel. He is to salute politely the master and his school-fellows. In school he is to keep his appointed seat, to be attentive to what is dictated, to have ever at hand his scholastic implements or "arms":

Scalpellum, calami, atramentum, charta,
libelli.

He is to write fairly and keep his manuscript unblotted. He is to revise often what he has been taught; and he is to put questions about it to his companions and others, and to maintain a wholesome independency of thought:

Sæpe recognoscas tibi lecta, animoque re-
volvās :

Si dubites, nunc hos consule, nunc alios.
Qui dubitat, qui sæpe rogat, mea dicta tenebit.
Is qui nil dubitat, nil capit inde boni.

He is always to speak Latin, but to avoid barbarisms. Virgil, Terence and Cicero are to be his authorities. He is to be persevering :

Nil tam difficile est quod non sollertia vincat.

He is to rule his tongue and eschew frivolity, deception and quarrelsomeness :

Clamor, rixa, joci, mendacia, furta, cachinni,
Sint procul à vobis; Martis et arma procul.

This *Carmen* was mastered and committed to memory just like the rest of the grammar; and it has no doubt in many instances helped to mould character. At the end of the grammar it was duly translated for the benefit of the very young; beginning in this infantile fashion: *Qui mihi* construed: *Carmen* a poem *Gulielmi Lili* of William Lily *ad discipulos* to his scholars *de moribus* concerning manners. *Puer* child, *qui* who *es art mihi discipulos* my scholar, *atque* and *cupis* desirest *doceri* to be taught, *ades* come *huc* hither, *concipe* treasure up *hæ dicta* these sayings *amimo tuo* in your mind. The *Carmen de Moribus* was spoken of as the *Qui mihi*, just as the rules for the formation of verbs and genders of nouns were spoken of as the *As* in *præsenti*, *Propria quæ maribus* and *Quæ genus*, from the initial words, after the ecclesiastical custom of quoting psalms, e.g. *Venite exultemus, Deus misereatur*, etc.

The *Carmen* of Lily was inserted by Ruddiman among the *Prima Morum et Pietatis Præcepta* given in his Grammar. It there has the heading *Gulielmi Lili Monita Pædagogica*. Ruddiman further gives a *Carmen de Moribus et Civilitate Puerorum*, consisting of sixty couplets, by one *Johannes Sulpitius Verulanus*. Its drift is the same as that of Lily's piece, and it furnishes us with another picture of school-boy life. Sensible advice as to morals and civility or politeness is offered. The directions enter more into detail than Lily's code does; and we seem to have glimpses of a somewhat coarse condition of things. Monastic schools on the continent are probably in the eye of J. S. V. A lad is cautioned against some objectionable habits thus:

Lingua non rigeat, careant rubigine dentes
Atque palam pudeat te fricuisse caput;

Exprimere et pulices, scabeamque urgere nocentem,
 Ne te sordidulum, qui videt ista, vocet.
 Seu spūs aut mungis nares, nutasve, memento
 Post tua concussum vertere terga caput, etc.
 etc.

Propriety of manner at table is largely inculcated. Bad styles of eating and drinking are deprecated. Moderation is preached. It is proper enough to eat to live; but not so, to live to eat. The food is to be disposed of by means of knives, the fingers and the teeth. Spoons apparently are not in use, and certainly not forks. The plates are *quadra*, square trenchers of beechwood.

Te vitare velim, cupidus ne ut lurco, sonoras
 Contractes fauces; mandere rite decet.
 Gausape [table-cloth] non macules, aut pec-
 tus; nec tibi mentum
 Stillet; sitque tibi ne manus uncta cave.
 Sæpe ora et digitos mappâ siccabis adeptâ.
 In quadra faciat nec tua palma moram.
 Ne lingas digitos, nec rodas turpiter ossa,
 Astrea cultello radere rite potes.

Elsewhere the boy is told to "employ three fingers" in eating, and not to take huge bites, nor to aim at doubling the gusto of his pudding by using both sides of his mouth at once; and although the ancients thought fit to lie at their banquets with breast bowed down, he is to sit with neck erect, and let it be left to the dons, the preceptor says, to rest their arms on the board: you are only just to touch it with your hands, as you deftly take up or lay down what you require. It is to be observed that unmixed water as a human beverage is not recognized. Wine is the common drink; it is to be moderately taken however, the stock example of old Cato to the contrary notwithstanding. Three cups are not to be exceeded and the liquor is to be well diluted.

Qui sapit extinguet multo cum fonte Faler-
 num,
 Et parco lympham diluet ille mero.
 Unum sive duo, in summum tria pocula
 sumes:
 Si hunc numerum excedas jam mihi potus eris.

After drinking, he is to wipe his mouth with a napkin, not with his hand:

Pocula cum sumes tergat tibi mappa labella;
 Si tergas manibus non mihi carus eris.

I take this Johannes Sulpitius Verulanus to be the Sulpitius whose prælections, we are told, Lily attended at Rome after his sojourn in Rhodes; and that the Carmen of the one suggested the Carmen of the other.

In Ruddiman the Carmina of Lily and Sulpitius are preceded by the "Sayings of the Seven Wise Men of Greece," as turned into Latin by Erasmus; not simply one saying from each sage, as usually given, but a whole nosegay of terse sayings from each, full of shrewd observation and delivering golden rules of conduct, to be taken, of course, all of them, *Christianè*, as the modifying word is, in a parenthesis after one of them, namely that of Pittacus of Mitylene, which bids a man be lord of his wife. This in Ruddiman, reads thus: Uxori dominare (*Christianè*).

Those who are aware of the department of matter in the old Latin grammars to which I have now been led to refer, will probably expect of me a notice also of the so-called "Moral Distichs of Cato." This manual for the young is not indeed to be seen in Lily; but it is given at full length in Ruddiman. It was deemed worthy, in the olden time, of being edited, annotated and paraphrased by the greatest scholars. With the version of the Distichs given by Ruddiman, as he himself notes, Joseph Scaliger, Erasmus, Scriverius, Buxhornius and Thomas Robinson, author of the *Quægenus*, have all had something to do. These Moral Distichs were in reality compiled circa A.D. 180; by a certain Roman stoic named Dionysius, or Dionysius Cato. They have been attributed to each of the more celebrated Catos; to the Elder who lived

some two hundred years B.C., because it was reported by Aulus Gellius that he had addressed a *Carmen de Moribus* to his son; and to the Younger (Addison's Cato) who lived circa 40 B.C., on account of his philosophical proclivities. It was however, as is well known, the custom aforesaid among professional dialecticians—and this Dionysius was probably nothing more—to compose by way of exercise, and not for any deceptive purpose, dissertations or orations professing to be the missing productions of great authors. Many a fine sentence was thus in after times quoted as Cicero's and Plato's, which Cicero and Plato never penned. And so in regard to the two ancient Roman *Catos*: numerous sage sayings supposed to carry with them the weight of their great names, especially in the scholastic disputations of former times, were in reality the dicta of Dionysius the stoic sophist or declaimer, drawn from the *Book of the Distichs*.

He may have thus rhetorically made use of the name of Cato; or that name may have been applied to him by contemporaries on account of the tenor of his work. To call a man a Cato was a common way of saying that he was a censor or very critical personage; as in Juvenal, II. 40, where we have *Tertius à cœlo cecidit Cato*, "A third Cato come down from heaven," somewhat as we say "Another Daniel come to judgment." Although in language *Latinissimus*, as Laurentius Valla testifies, Dionysius was no doubt of Greek origin, a near descendant possibly of a clever immigrant, such as was the "grammaticus, rhetor, geometres, pictor, aliptes, augur, schœnobates, medicus, magus," all in one, of whom Juvenal also speaks.

I find in my collection a copy of the *Distichs* which I remember securing long ago as a curiosity. This is

the edition of Otto Arntzenius, published at Amsterdam in 1754.

The little manual which, complete, occupies less than twelve duodecimo pages in Ruddiman, here assumes the formidable bulk of an octavo tome of 578 pages, exclusive of the *Index Rerum et Verborum* of thirty-six pages. Such dimensions are acquired (1) by several dedications, prefaces and preliminary disputations; (2) by the scholia, the annotations, critical observations and various readings of a number of learned men; (3) by two elaborate translations into Greek hexameter verse; one of them by Maximus Planudes, a monk of Constantinople in the 13th century; the other by Joseph Scaliger, circa 1593; (4) by Appendices and an *Index Rerum* as aforesaid. Now although all this may sound portentous there can be no doubt with any one who has the leisure to look into the matter, that every scintilla of Otto Arntzenius's volume has a positive interest and value, and will appear to have been quite justly called for.

These supposed *Distichs* of Cato the Censor were committed to memory by children in the old Grammarschools from a very early period; and sometimes were recited by them responsively in Corydon and Thyrsis fashion, by way of amusement. "However," observes Joseph Scaliger in the preface to his Greek translation, "this little manual was composed not for children only, but for mature men as well; and I have reason to know," he says, "that many grave and learned personages have not been ashamed, even when now quite advanced in years, to learn the *Distichs* by heart. All this of course," he adds, "the conceited wise-acres of to-day will laugh at." (*Est vero iste Libellus, non solum pueris sed et senioribus factus; et ego mihi conscius sum, multos gravissimos et doctissimos viros non puduisse, jam provectos*

setate, hæc Disticha memoriter discere; sed hoc ridebunt hodierni *doksisophoi* [would-be wise men]). Cordierius, of whose ever-memorable Colloquies I shall have to speak presently, wished to get rid of the Distichs in schools as being, in his judgment, not well adapted to the capacity of the very young, and as exhibiting a tautology of synonymous expressions. He would have been pleased to see them replaced by suitable extracts from Cicero's Epistles; but there was the old difficulty in the way—the prejudice of schoolmasters. Thus he speaks to his friend Robert Stephens, for whom he edited the "Book of the Distichs" in 1561: "Ejus usus adeo inveteravit ut etiamsi pro eo et utiliora et ad parvulorum captum magis accommodata proponuntur, vix tamen efficias ut è scholis prorsus extrudatur; tanta est vis consuetudinis et vetustatis!" Nevertheless, he adds, he does not say this with an intention of condemning a manual which the most learned men have approved of amongst them especially the profound and acute Laurentius Valla (quem doctissimus quisque, et imprimis vir acerrimi iudicii Laurentius Valla probaverit). This Laurentius Valla, the greatest scholar and critic of the period, had, as I have already noted, spoken of our Dionysius Cato as being among the lesser Roman writers *Latinissimus*, on account of the excellence of his Latin.

From an assemblage of maxims inculcating wisdom, fortitude, frugality, friendship and so on, divided into four books, but otherwise poorly classified, it is difficult to make a selection. Two or three samples however of the *Disticha* must be given. Here are three couplets in which something is finely said of God, of His spirituality and inscrutableness, and of the course which it is most expedient for man therefore to pursue.

Si Deus est animus, nobis ut carmina dicunt,
Hic tibi præcipiè sit purâ mente colendus.

Mitte arcana Dei, cœlumque inquirere quid sit:
Cum sis mortalis, quæ sunt mortalia cura.

Quid Deus intendat, noli perquirere sorte:
Quid stauit de te, sine te deliberat ipse.

These relate to a man's proper estimate of his own ability; to the advisableness of mingling manual and mental accomplishments, and to the practice of economy.

Quod potes, id tentes, operis ne pondere
pressus
Succumbat labor, et frustra tentata relinquant.

Disce aliquid; nam cum subito fortuna
recessit

Ars remanet, vitamque hominis non deserit
unquam.

Exerce studium, quamvis præceperis artem:
Ut cura ingenium, sic et manus adjuvat usum.

Utere quæsitis parcè; cum sumptus abundat
Labitur exiguo quod partum est tempore
longo.

Quod vile est carum; quod carum est vile
putato:
Sic tibi nec cupidus, nec avarus habebis ulli,

Here are cautions against wordy persons, and against the lying wonders of the poets or writers of fiction.

Noli tu quædam referenti credere semper:
Exigua his tribuenda fides qui multa to-
quantur.

Contra verbosos noli contendere verbis:
Sermo datur cunctis, animi sapientia paucis.

Virtutem primam scis esse, comperescere
linguam:

Proximus ille Deo qui scit ratione tacere.

Multa legas facito: perfectis negligè multa;
Nam miranda canunt, sed non credenda
poetæ.

Another sample and I have done: it is one which urges a man to do instantly the thing which his conscience or judgment tells him he should do. The second line of the couplet will be recognized as an old acquaintance: we have in it "the Antiquary Time," with his forelock set before us:

Rem tibi quam noscisc aptam dimitter: noli:
Fronte capillata, post est Occasio calva.

The Moral Distichs of Cato, the Sayings of the Seven Wise Men, the Verses of Lily and of John Sulpitius have now disappeared from school grammars, along with matter even more directly and formally didactic, such as, for example, the Rudimenta Pietatis and Shorter Latin Catechism of Ruddiman. These summaries and compendiums were all excellent in substance, and were propounded to young lads in the olden time with the very best intentions, and with beneficial results too, in certain cases, as we cannot but believe. But as the years rolled on, is it not to be feared that the blending of such things with purely grammatical matter very sternly inculcated, had with the majority in after life the unfortunate effect of benumbing the mind in respect to moral and religious subjects, and even now and then engendering aversion and hostility to such topics of thought? Information of a distinctively religious kind can now be otherwise acquired with ease, which was not the case when Latin grammars were first compiled for the Public Schools of England and Scotland. Prayers in Latin, and "Graces" before and after meat, in the same tongue, with the Regimen Mensæ Honorabile to be seen in Ruddiman, have in like manner and for the same reason disappeared from modern Latin Grammars. We might regret the absence from these manuals of such helps for the building up of young people in Christian faith, did we not know that forms and instruction of the kind referred to are now accessible in plentiful measure and in plain English close by. We are bound to believe that it is in accordance with Providential order that society, Christian and secular, has come to be differently constituted in the nineteenth century to what it was in the sixteenth or eighteenth. We cannot therefore undertake to pronounce it impious, when it comes to pass that now the formal inculcation of Christian ethics

and dogma must be taken out of the hands of the secular teacher and placed back again where it was put when the command to "make disciples" of the nations was first issued: namely, in the hands of parents and the official spiritual functionaries of the Christian community. No place of worship is now considered complete which has not its appendages of school rooms, class-rooms, and lecture-rooms. This is one of the developments of the period. And it is interesting to observe how pastors of Christian flocks are led in the present day, as at the beginning of Christianity, to regard children and the growing youth of each sex as an exceedingly important portion of their charge; how they are led to keep in view the young in the preparation and delivery of their public addresses; and furthermore how, in concert with parents and guardians, they have been induced to provide for them, when gathered together in classes for the purpose, more complete and more intelligible courses of instruction than were ever devised before. It is striking also to see how the modern pastor, while not caring to delegate any longer his own self-evident duty, in this regard, to the secular schoolmaster, nevertheless desires to have, and in point of fact, obtains, the skilful co-operation of numerous qualified members of his flock, who assist, under his own eye and direction, in the work of instruction. The modern practice of making Saturday a whole holiday for schools, has helped forward this improvement. Young people can now without scruple be asked to pass several hours of their Sunday in the school or class room, when in addition to innumerable other breaks in the routine of their secular studies, a whole day in each week is set apart for unrestrained physical recreation.

But I hasten to finish this account of the moral and theological matter to be found in our old Latin Grammars.

In addition to the versified codes of conduct—the *Carmina* and Distichs of which I have spoken—we have in Ruddiman six and a half closely-printed pages of Latin prose, purely dogmatic, comprising what appears to be virtually a version of the Scottish Shorter Catechism with large extracts from the Old and New Testaments, arranged under headings, De Deo, de Creatione, de Lapsu, etc., all expected to be got up as school-tasks; just as I have known in some English Schools the Thirty-nine Articles exacted of boys in the Latin tongue; although I do not remember ever seeing the Thirty-nine Articles included in a Latin Grammar. There is nothing in Lily so formally theological as this. There is simply at the beginning of the book a Latin prayer for the special use of the school-boy, followed immediately by an English translation of the same. A sentence from it in the latter language will indicate to us that it has a little of the ring of the old collect about it: “Beautify by the light of Thy heavenly grace the towardness of my wit,” it teaches the young scholar to say, “the which, with all powers of nature, Thou hast poured into me; that I may not only understand those things which may effectually bring me to the knowledge of Thee and the Lord Jesus our Saviour, but also with my whole heart and will, continually to follow the same, and receive daily increase, through Thy bountiful goodness towards me, as well in good life as doctrine.” I observe in G. J. Vossius’s Latin Grammar for Holland a similar prayer for the use of young scholars. It is comprehensive and finely expressed. I venture to transcribe it: “Oratio Matutina. Omnipotens, sempiterna, misericors Deus, quia nox præterit, pro qua placide exacta immortales gratias agimus, et dies illuxit quo Scholasticus labor nobis pueris est iterandus, rogamus ut illustrati Spiritu tuo vera obedientiam erga Præ-

ceptores, et assidua discendi curam cum transigere possimus, quo de die in diem in bonarum litterarum cursu instituto progrediamur feliciter, simul in pietate et moribus bonis proficientes, idque ad nominis Tui gloriam, Ecclesie et Reipublice utilitatem. Per Dominum,” etc. At the end of my Lily of 1712, but not in the other editions of the same work now before me, there are some metrical prayers for boys; preceded by an exhortation to study from the master, also in verse, wherein the sole end of learning is set forth in this wise:

—ut Dominum possis cognoscere Christum
 Ingenus artes discito, parve puer.
 Hoc illi gratum officium est, hoc gaudet
 honore;
 Infantum fieri notior ore cupit.
 Quare nobiscum studium ad commune venite:
 Ad Christum monstrat nam schola nostra
 viam.

It was in accordance with this that in the great school-room of St. Paul’s School (Lily’s) there was to be seen over the head-master’s seat up to the time of the great fire of London in 1666, a finely carved figure of a Child-Christ in the attitude of instruction which all the scholars on entering and departing were wont to salute by the recitation of certain verses in Latin; and underneath this figure was a distich furnished by Erasmus—

Discite me primum, pueri, atque effingite
 puris
 Moribus; inde pias addite literulas.

Here probably the solitary hexameter suddenly occurring towards the end of the Prosody in the Eton Grammar will come back to the recollection of many who are familiar with that manual:

Atque piis cunctis venerandum nomen Iesus.
 This is a line borrowed from Lily; and in his day, as well as during many years subsequently, little boys and great ones too, as often as they quoted it, were expected, I doubt not, to make obeisance.

(To be continued.)

GULLIBLE CANDIDATES AND BOGUS (?) EXAMINATION PAPERS.

THE *Globe* of Wednesday, June 29th, gave a fully-detailed account of certain Public School Examination-Paper Frauds, lately exposed in the Brantford Police Court. It appears that a man of good address, among whose many *aliases* was that of Tooke, has been operating throughout the Province of Ontario by addressing letters to the candidates for Public School certificates, offering for a sum of money paid "in confidence," to forward copies of the Examination Papers for the forthcoming Second Class Examination. In many cases, in various towns and villages throughout the Province, dishonest and incompetent aspirants to the teaching profession were found who sent the money, and received examination papers of some sort in return. The *Globe* had a leading article on the subject, in which it pointed out the fact that young men or young women, capable of the fraudulent act of trying to get surreptitious papers, were quite unfit, morally and intellectually, to fill the office of Public School teacher.

The cheat who was the leading figure in this transaction elected to be tried summarily by the magistrate, which of course was his wisest plan. He got off with a slight punishment; the whole affair occupying a corner in the *Globe* of the issue referred to, and might easily be soon forgotten. But we do not think it ought to be forgotten, and therefore in the interest of the honest, hardworking, and conscientious candidates, to whom alone this educational serial is addressed, we intend to urge on the serious atten-

tion of our readers some important practical conclusions from this very disgraceful circumstance.

The first of these is the humiliating one that there exists a certain element of utter demoralisation and incompetence among those who propose to become school teachers. This is proved by the fact that the confidence man, "Tooke," could reap so rich a harvest by the sale of fraudulent or fraudulently-obtained examination papers through the length and breadth of Ontario.

Secondly, the young men and young women who have been guilty of this fraud ought not to be allowed to go prosperously on the path to the teaching profession. To allow this would be grossly unjust to the honest candidates. It would also be grossly unjust to the parents and children of the Province. We demand that the names of all Mr. Tooke's correspondents be published, though not in the newspapers, and that copies of the list be sent to the several Provincial School Inspectors. We demand, further, that Mr. Tooke's real name, whatever it may be, shall be published also, but *in* the public prints. We are told by the *Globe* that he is the son of a clergyman in Ontario, and that his name is withheld out of deference to his parents. Now, we fail to see why the name of a thief, who is the son of a clergyman, should be thus delicately dealt with, any more than if he were the son of a Public School teacher, or of a farmer, or of a journalist. To withhold the name of this "son of a clergyman in Ontario," is unfair to

the Churches and the clergy of the Province; and if we do not get the name of this scion of ecclesiastical respectability, may he not try a yet safer and surer game of fraud when he emerges from his temporary seclusion in the Central Prison, Toronto?

A more important consideration remains. The extent of demoralisation shewn by the exposure of this fraud points to the existence of demoralising agencies of the worst kind in the highest places of our Education Department. The poor cheat who to-day works out his punishment in the Central Prison is a puny influence for evil compared with the confidence men who worked the examination frauds on a far larger scale, and over the investigation of whose delinquencies political influence at headquarters spread the shield of Party. For Tooke to sell to the fools and knaves who were his clients their bogus papers was a far less blow to public honour and public credit than that inflicted by the long-tolerated Book Depository and Apparatus Supply shop, with its very peculiar trade operations, and its safe and lucrative confidence game of buying from its own members at a minimum price what it sold to the public at a maximum! The gross abuses connected with the Depository and its adjuncts have been more than once exposed in the columns of this journal till at length the scandal became so patent that the Department was forced to put an end to the Depository in order to save further exposure. But with characteristic respect for public opinion, Mr. Crooks has put the principal offender into a new official position, one created to suit the convenience of so deserving an official, no longer, unhappily, subsidised by the Department for the purpose of underselling the legitimate book trade of the Province. When the Education Department is only too well known to be disgraced by long conniving at, and

reluctantly relinquishing, such a disreputable piece of business as this of the Depository Agency, no wonder that the demoralising influence from headquarters should pervade the outskirts of the profession, that petty local imposture should flourish, that the noble history of fortunes amassed out of the people's pockets by selling chemical and other apparatus to school trustees, at cent. per cent. profit, should fire the ambition of all teachers more conscious of a talent for sharp practice than for conscientious study!

Say shall my little bark attendant sail,
Pursue the triumph and partake the gale?

But the very fact of the prisoner, Tooke, plying a prosperous trade in the examination papers which he claimed he had surreptitiously obtained raises the question, whether these papers *were* what he professed them to be. We wish it were possible to reply to this, that the character of our Education Department stands so high, has been so clear of all suspicion of having ever permitted examination papers to be tampered with, that it is absolutely certain beforehand that the papers sold to the dishonest candidates by Tooke were in no sense what he affirmed they were. But unhappily this is just what the facts of the case negative: they all point the other way. The gravest charges of tampering with examination papers were brought several years ago against two officials, then as now in the supposed confidence of the Minister. The evidence, as taken by Commissioner Patterson, lies before us in a statement printed at the time. It goes to prove that the questions given to pupils in the Normal School a few weeks before the time of examination in June, 1874, by one of the masters, were almost identical with those given at the examination by one of the Inspectors. This is shewn by the two sets of questions,

those of the master and those of the examiner being arranged in opposite columns for several pages of a closely-printed pamphlet. The resemblance between the two is undeniable: often the very phraseology is the same! Everyone interested in the subject knows how the investigation into the charges thus brought against these two officials of the Department was manipulated into nothing. The little political job succeeded: the political head of the Education Department gained his point; but a feeling of suspicion remained deeply seated in the public mind, only too likely to prepare dishonest and idle candidates to believe that what was said to have been done once might be done again, and that the papers they purchased from the practitioner, now "serving his time" at Toronto, might prove to be as happily resembling those of next examination as the papers given by the Normal School Master did those issued at the examination by the Inspector.

The fact of it is, that the moral tone of the teaching profession demands a reform of the Department. With what hope of guidance can an intelligent boy, desiring to become a first-rate teacher, look to those now in power? Where is he to find intellectual leadership, to say nothing of moral? Such a reform as we desiderate must provide for a thorough sweeping away of the Book Depository *system* which seems unfortunately to have left its survivals. It must provide also for a thorough inspection of the Departmental accounts. Last session some portion of these documents were gone into by the Public Accounts Committee of the Legislature, and disclosures were made of a scandalous character. Grave charges were also privately brought forward, by members of the House, seriously implicating an official long connected with the Depository, but of which the public have heard nothing,

though evidence of a criminatory character exudes on all sides. Why the Head of the Department does not act in the matter, it puzzles us to say. There can be no possible collusion between him and guilt; and yet, if there has been wrong-doing, why does he not expose it? The matter has been repeatedly brought before him, and he owes it to the people and to the public service, to sift the management of the institution to the bottom, and to either convict or acquit those pointed at as guilty of malfeasance of office. Till these matters are inquired into and many other evils remedied—until the Department becomes what it ought to be, *not* a political machine, nor an asylum for official incapables or clever showmen, but an institution for the furtherance of our provincial education—it is vain to expect, in any rank of the profession, in anything connected with education, that sharp practice will not prosper and dupes multiply.

But the disclosure of this "Tooke" affair has a moral for the school trustee, which we feel bound to bring here to his notice. It is this: How much, or how high a morality do school trustees expect from the teachers they engage for the responsible work they employ them to perform, at the pitiful remuneration doled out to them? For, say, \$300 a year do they expect the moralities "thrown in" with the other acquisitions which they look for in the instructors of their youth? The cry, we know, is that the profession shall respect itself, and that its members shall be both competent and reputable. On what, pray?—the salary of an errand-boy or the income of a shoe-black? Let us be just!

It is true that the teaching community have general public relations which render it amenable to the public judgment. While these relations exist and are in active operation, we in no way decry criticism or seek to

ward off a single blow. But while the public remunerate the profession, and society rates it, on a scale that does it infinite injustice, is it fair, we ask, to be censorious, or to be severe when even many, it may be, of its members lapse from grace? In all of the professions there will be found the deserving and the undeserving; in none, however, is there so much expected from its members as in that of teaching. The public have reason to be more considerate; and the Toronto

press, particularly, has of late much of which to accuse itself. The two leading papers have fallen into a manner of speaking of teachers which is in the highest degree reprehensible. The *Globe's* sneers at the "school-master" are an insufferable impertinence, and should be resented by every one who respects his profession. But this is a matter that we shall deal with at some future time. Here we must bring the present paper to a close.

OBJECT LESSONS.

WE hear a great deal said about using object lessons in the place of text books, and very well it all sounds. How well it all works, we are not ready to say. For it is very easy for a teacher to present an object to his pupils, and ask a stereotyped list of questions about it, but it does not follow from this that the pupils are greatly benefited thereby. He may not have gained by this any insight into the nature of the object, or any real knowledge concerning it. This or that peculiarity which the object possesses has been pointed out to the child, but his faculties have not been quickened in any degree, no train of thought has been aroused in his mind, and as far as the training of the observing power goes—the real end of object teaching—nothing whatever has been gained.

Now an object is an object simply, and nothing worth mentioning is gained by having it present when some one talks about it, unless the talk is vivifying, awakening, stirring. If the teacher has no knowledge about the object of which he speaks—suppose it is a piece of coral—except what he has gained by a hurried perusal of an article in the encyclopædia, the exercise may be a degree less stupid for the children if he holds up a piece of coral, or passes it around the class—but nothing more is probably gained. The difference between this wooden method of object teaching and that of the teacher whose thorough knowledge and vividness of description

can make the children see an object which is *not* present, is infinite. However, we would not interfere with the object lesson craze. Much good has been and will be done by it, even though much of its teaching is very poor and crude.—*Educational Weekly.*

EVEN the philosophers sometimes have the laugh turned on them. Not long since, in the presence of Herbert Spencer, a little boy said, "What an awful lot of crows!" The philosopher corrected the youth by saying, "I have yet to learn, little master, that there is anything to inspire awe in such a bird as the crow." For once the author of "First Principles" had met his match. The boy replied, "But I didn't say there was; I didn't say what a lot of awful crows, but what an awful lot of crows!" Sound for the boy.—*Harper's Weekly.*

A SUFFICIENT REASON.—A master was explaining that the land of the world is not continuous. He asked a boy, "Now, Jack, could your father walk round the world?" "No, sir," said the boy. "And why?" "Because he's dead, sir."

SCRIPTURE EXAMINATION.—*Question*—What do you know of Jonah? *Answer*—Jonah hid himself for forty days and forty nights in the belly of a whale; at the end of this time he was hungry, and he prayed and said "Almost thou persuadest me to be a Christian."

ARTS DEPARTMENT.

ARCHIBALD MacMURCHY, M.A., MATHEMATICAL EDITOR, C. Z. M.

Our correspondents will please bear in mind, that the arranging of the matter for the printer is greatly facilitated when they kindly write out their contributions, intended for insertion, on one side of the paper: ONLY, or so that each distinct answer or subject may admit of an easy separation from other matter without the necessity of having it re-written.

UNIVERSITY OF TORONTO.

ANNUAL EXAMINATIONS, 1881.

Junior Matriculation.

MATHEMATICS.—PASS.

1. Simplify

$$\frac{.8}{.3} - \frac{45}{8} \left(\frac{16}{25} - .1 \right) + \frac{\frac{2}{3}(.64 - \frac{1}{8}) \times .390625}{.11 \left(\frac{1}{3} + \frac{1}{2} \right)}$$

2. Find the square root of 5 to five decimal places, and deduce the values of

$$\sqrt{\frac{1}{5}}, \sqrt{.002}, \frac{5 + \sqrt{5}}{5 - \sqrt{5}}, \text{ and } \sqrt{6 + 2\sqrt{5}}.$$

3. (a) How much will \$1000 amount to in 2½ years, compound interest, 4 per cent. per annum, payable half-yearly?

(b) A person pays \$292.50 for \$300 due three months hence. What rate per cent. interest does he receive?

4. What is meant by the expression, "Sterling Exchange, 9½ p. c. premium"?

A person pays \$181.50 for £37 10s., stg. What per cent. premium is Sterling Exchange?

5. Multiply $b^2 + (a-b)(b-c)$ by $c^2 + (b-c)(c-a)$.

Shew that your answer is correct by substituting $a=2, b=0, c=-3$.

6. Simplify

$$(1) \frac{a^2 b c^2}{a^{-1} b^2 c^{-3}}$$

$$(2) \frac{x^2 - 2 + x^{-2}}{x^2 - x^{-2}} - \frac{x^2}{x^2 + 1}$$

7. Resolve into factors

$$a^2 - b^2, ab + bc + ca + b^2,$$

$$a(b+c)^2 + b(c+a)^2 + c(a+b)^2 = 4abc.$$

$$(a+b)^3 - 2b \frac{a^3 - b^3}{a-b} + c(a^2 - b^2) - 2ab^2.$$

Find the Greatest Common Measure, and the Least Common Multiple of these four quantities.

8. Solve the equations

$$(1) ax + b = bx + a.$$

$$(2) \frac{1}{x^2 + 3x + 2} + \frac{1}{x^2 + 5x + 6} = \frac{1}{x^2 + x - 2}.$$

$$(3) \begin{cases} \frac{2}{x} - \frac{3}{y} = 4. \\ 2x - 3y = 2xy. \end{cases}$$

$$(4) \begin{cases} xy - yz = 18. \\ x^2 + z^2 = 4y^2 + 2xz. \\ x^2 - 8 = 2xy + 2xz. \end{cases}$$

9. There are two vessels, *A* and *B*; each containing a mixture of water and wine, *A* in the ratio of 2:3, *B* in the ratio of 3:7. What quantity must be taken from each in order to form a third mixture which shall contain 5 gallons of water and 11 of wine?

10. Describe a triangle, of which the sides shall be equal to three given straight lines, any two of which are together greater than the third.

A straight line *AD* is divided into three equal parts by the points *B* and *C*; on *AB*, *BC*, *CD* are described equilateral triangles. *AEB*, *BFC*, *CGD* respectively: shew that the three straight lines *AE*, *AF*, *AG*, can form a triangle equal in area to the equilateral triangle *AEB*.

11. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts shall be equal to the square on the other part.

12. Define the terms, *circle*, *tangent to a circle*, and *segment of a circle*.

The angles in the same segment of a circle are equal to one another.

PROBLEMS.—HONORS.

1. If a straight line terminated by the sides of a triangle be bisected, no other line terminated by the same two sides can be bisected in the same point.

2. If two equal circles be described cutting each other in A and B , and from A a chord be drawn cutting them in C and D , prove that the part CD between the circumferences will be bisected by the circle described on AB as diameter.

3. Circles are described on two of the sides of a triangle as diameters, and each meets the perpendicular from the opposite angular point on its diameter in two points; prove that these four points lie on a circle whose centre is at the intersection of the two sides.

4. Prove that

$$a^2 \left(\frac{1}{b} - \frac{1}{c} \right) + b^2 \left(\frac{1}{c} - \frac{1}{a} \right) + c^2 \left(\frac{1}{a} - \frac{1}{b} \right) \\ = a \left(\frac{1}{b} - \frac{1}{c} \right) + b \left(\frac{1}{c} - \frac{1}{a} \right) + c \left(\frac{1}{a} - \frac{1}{b} \right) \\ = a + b + c.$$

5. If $x + y + z = xyz$ prove that

$$\left(\frac{x}{y} + \frac{y}{x} + \frac{y}{z} + \frac{z}{y} + \frac{z}{x} + \frac{x}{z} + 2 \right)^2 \\ = (1 + x^2)(1 + y^2)(1 + z^2).$$

6. Solve the equations

$$x + y + z = 2(a + b + c), \\ ax + by + cz = 2(ab + bc + ca) \\ (b - c)x + (c - a)y + (a - b)z = 0.$$

7. A waterman rows a given distance a and back again in b hours, and finds that he can row c miles with the stream in the same time as d miles against it. Find the time each way, and the rate of the stream.

8. ABC is an isosceles triangle, D the middle point of the base BC . If any straight line drawn through D meets one side in E

and the other produced in F , then AE, AC, AF are in harmonic progression.

9. Given

$$\tan^2 x + \sec^2 2x = \frac{7\sqrt{3} - 10}{\sqrt{3}} \text{ find } x.$$

10. If $A^1 B^1 C^1$ be the angles which the sides of a triangle subtend at the centre of the inscribed circle, prove

$$4 \sin A^1 \sin B^1 \sin C^1 = \sin A + \sin B + \sin C.$$

$$11. \text{ If } \cos^2 \theta = \frac{\cos a}{\cos \beta}, \quad \cos^2 \theta^1 \\ = \frac{\cos a^1}{\cos \beta} \text{ and } \frac{\tan \theta}{\tan \theta^1} = \frac{\tan a}{\tan a^1},$$

$$\text{prove that } \tan \frac{\beta}{2} = \tan \frac{a}{2} \tan \frac{a^1}{2}.$$

12. If $\cos \theta = \tan \lambda \cot a$, $\cos \phi = \tan \lambda \cot b$, and $\sec \theta \sec \phi = \sec \lambda \tan \theta \tan \phi - \tan a \tan \beta$; shew that $\cos^2 \lambda = \cos^2 a \cos^2 \beta$.

13. Four points, moving each at a uniform speed, take 108, 495, 891, 1155 seconds respectively to describe the length of a given straight line. Supposing them to be together at any instant at the same end of the line, and to move in it from end to end continually, what interval of time will elapse before they are together at the same point again.

TRIGONOMETRY.—HONORS.

1. Define a logarithm. Of what two parts is a logarithm composed? Shew that in the common system, one of these parts may be determined by inspection.

$$\text{Prove that } \log x^{\frac{m}{n}} = \frac{m}{n} \log x.$$

$$\log_b x = \frac{\log_a x}{\log_a b}.$$

2. Write down the characteristics of the common logarithms of 0.2, 0.00005, and 5555.5.

3. Find the logarithms of

$$\frac{\sqrt{3} \sqrt[3]{282.9}}{7 \cdot \sqrt{7.2798}}, \quad \frac{\sqrt{.003}}{2 \sqrt[3]{.05}}, \quad \sin 60^\circ, \\ \cot 45^\circ, \quad \operatorname{cosec} 30^\circ.$$

Find x from the equation $(1.08)^x = 2$.

4. Define the following trigonometrical ratios of any angle, viz., the sine, the cosine,

the tangent, and the secant; and explain the origin of the names.

Prove that the sine of a given angle can have only one value. Is the converse true?

Write down the value of $\cos 0^\circ$, $\sin 45^\circ$, $\tan 30^\circ$.

5. Having given $L \cos 37^\circ 14' = 9.9010102$, and difference for $1' = 960$, find $L \cos 37^\circ 14' 16''$, and $L \operatorname{cosec} 52^\circ 45' 54''$.

6. Prove the formulæ

$$(1) \sin(A - B) = \sin A \cos B - \cos A \sin B.$$

$$(2) \cos 2A = 1 - 2 \sin^2 A.$$

$$(3) \frac{\sin A + \sin B}{\sin A - \sin B} = \frac{\tan \frac{1}{2}(A+B)}{\tan \frac{1}{2}(A-B)}$$

$$(4) \frac{\sin A + \sin 2A}{1 + \cos A + \cos 2A} = \tan A.$$

7. How many parts of a triangle must be given to effect its solution?

In a certain triangle ABC it is known that $\sin^2 A = \sin^2 B + \sin^2 C$. Shew that one of the angles may be found, and find it.

8. In any triangle prove that

$$(1) \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$

$$(2) \tan \frac{A-B}{2} = \frac{a-b}{a+b} \cot \frac{C}{2}$$

$$(3) \sin B \operatorname{cosec} A = \frac{\cot \frac{A}{2} + \cot \frac{C}{2}}{\cot \frac{B}{2} + \cot \frac{C}{2}}$$

9. Solve the triangles

$$(1) A = 143^\circ 23' \quad (2) A = 64^\circ 56'$$

$$a = 60 \text{ ft.} \quad b = 311.5 \text{ ft.}$$

$$b = 54 \text{ ft.} \quad c = 111.5 \text{ ft.}$$

10. Having given the three sides of a triangle, find the radii of the inscribed and circumscribed circles.

Number.	Log.	Angle.	Log.
11150	.04727	$4^\circ 9'$	$L \sin 8.85955$
20000	.30103	$20^\circ 55'$	$L \sin 9.55268$
28290	.45163	$32^\circ 28'$	$L \sin 9.72982$
30000	.47712	" "	$L \tan 9.80363$
42300	.62634	$36^\circ 37'$	$L \sin 9.77558$
70000	.84510	" "	$L \tan 9.87106$
72798	.86212	$64^\circ 56'$	$L \sin 9.95704$

EUCLED.—HONORS.

i. If a point be taken within a circle, from which there fall more than two equal lines to the circumference, that point is the centre of the circle.

2. If a straight line touch a circle, the straight line drawn from the centre to the point of contact shall be perpendicular to the line touching the circle.

3. About a given circle describe a triangle equiangular to a given triangle.

4. Inscribe an equilateral and equiangular hexagon in a given circle.

5. Define ratio, compound ratio, and proportion. How is the equality of two ratios ascertained?

6. If the segments of the base of a triangle have the same ratio which the other sides have, the straight line drawn from the vertex to the point of section divides the vertical angle into two equal angles.

7. Find a fourth proportional to three given straight lines.

8. Rectilinear figures which are similar to the same rectilinear figure are also similar to one another.

9. From a vessel two known points are seen under a given angle; the vessel sails a given distance in a given direction, and the same two points are seen under another given angle. Find the position of the vessel.

10. About a given circle describe a triangle, the angular points of which lie on three given straight lines drawn from the centre of the circle.

11. The locus of the vertices of triangles on a given base, having their sides in a given ratio, is a circle.

ALGEBRA.—HONORS.

1. Find the relation among the coefficients of $ax^2 + 2hxy + by^2 + 2gx + 2fy + c$ in order that it may break up into two linear factors with real co-efficients.

2. Solve

$$(1) 54x^3 + 27y^3 = 8216$$

$$x + y = 10.$$

(2) $16x^4 - 81y^4 = 3090960$
 $2x + 3y = 54$

(3) $x + yz = y + zx = z + xy = 1$.

3. From

$$\left. \begin{aligned} x^2 + x_1^2 + x_2^2 &= mb^2 \\ y^2 + y_1^2 + y_2^2 &= ma^2 \\ xy + x_1y_1 + x_2y_2 &= 0 \\ x + x_1 + x_2 &= 0 \\ y + y_1 + y_2 &= 0 \end{aligned} \right\} \text{eliminate } x_1, y_1, x_2, y_2.$$

4. If A varies as B when C is invariable, and A varies as C when B is invariable, then A varies as BC when both B and C are variable.

If t be the time of a complete vibration of a pendulum of length l , $t \propto \sqrt{l}$. Hence find the length of a two-second pendulum when the length of the second pendulum is 39.4 inches.

5. Find the limit of an infinite geometrical progression whose common ratio is less than unity.

The first term of an infinite G. P. is 1, and any term is equal to the sum of all the succeeding terms. Find the common ratio.

Sum to $3n$ terms the series

$$1 + 4 + 27 + 4 + 25 + 216 + 7 + \text{etc.}$$

6. Find the number of permutations of n things taken r together.

Three boxes contain respectively 4, 5, and 6 counters. In how many ways may 4 counters be drawn, not taking more than 2 from one box?

If P_r be number of permutations of n things taken r together, shew that when $m > 2$

$$(P_1 - 1)(P_2 - P_1) \dots (P_m - P_{m-1}) = P_2 P_3 \dots P_{m-1} P_{m+1}$$

7. Prove the binomial theorem for all values of the index.

(1) The remainder after n terms of the expansion of

$$(1-x)^{-2} = \frac{(n+1)x^n - nx^{n+1}}{(1-x)^2}$$

(2) $\sqrt{2} = 1 + \frac{3}{2} - \frac{3 \cdot 5}{2^2} + \frac{3 \cdot 5 \cdot 7}{2^3} - \text{etc.}$

EDUCATION DEPARTMENT,
 ONTARIO.

JULY EXAMINATIONS, 1881.

First Class Teachers—Grade C.

ARITHMETIC.

1. Examine the merits of the following test of the accuracy of a sum in addition:—
 "Divide the sum of the digits in each horizontal line by 9, retaining only the remainders; divide the sum of these remainders by 9, and if the remainder then obtained be equal to the remainder obtained on dividing the sum of the digits in the answer by 9, the answer is correct."

Will the test apply if "vertical lines" replace "horizontal lines" in the preceding; and, if so, why?

The principle is correct both for horizontal and vertical lines.

2. A man sells goods for \$1125. Half he sold at an advance of 25 per cent. on the cost, two-fifths at an advance of 12½ per cent., and the remainder at half its cost. What did he originally pay for the goods?

Let unity represent amount of goods, then

$$\frac{1}{2} \left(1 + \frac{25}{100} \right) + \frac{2}{5} \left(1 + \frac{12\frac{1}{2}}{100} \right) + \frac{1}{10} \left(\frac{1}{2} \right) = \$1125, \therefore 1 = \$1000.$$

3. If 4 pumps, each having a length of stroke of 3 ft. and a piston of radius 3 inches, empty a cubical cistern whose side is 6 ft. in 1 hour; what must be the radius of the piston of each of 6 pumps whose stroke is 4 ft., that they may empty a cistern whose sides are half those of the former in ½ of an hour, there being a defect in the latter pumps which takes away 10 per cent. of their efficiency?

One pump with stroke of $\left(4 \times 3 \times \frac{\pi}{16} \right)$ cub. ft. discharges 216 cub. ft. in 1 hr. Another pump with stroke of $\left(6 \times 4 \times \pi r^2 \times \frac{9}{10} \right)$ cub. ft. discharges 27 cub. ft. in one hr., or with stroke of $\left(5 \times 6 \times 4 \times \pi r^2 \times \frac{9}{10} \right)$ cub. ft. discharges 216 cub. ft. in 1 hr.

$$\therefore 5 \times 6 \times 4 \times \pi r^2 \times \frac{9}{10} = 4 \times 3 \times \frac{\pi}{16} \times 216 \therefore r = 1 \text{ in.}$$

4. A tax bill for \$291.60 may be paid in three instalments—\$111.60 on June 25th; \$90 on August 4th; and \$90 on October 4th. If all be paid on June 25th a reduction is allowed of $\frac{1}{100}$ of the instalments that might have been deferred. What rate per cent. per annum is this allowing for money?

If r be the rate per cent, $\frac{2}{100}$ of \$180

$$= \$\frac{18}{5},$$

$$\therefore \frac{40}{365} \times 90 \times \frac{r}{100} + \frac{101}{365} \times 90 \times \frac{r}{100} = \frac{18}{5},$$

$$r = 10.3 + \dots$$

5. A bankrupt's apparent assets are 80 per cent. of his liabilities; but on \$20,000 of these assets he recovers only 80 cents on the dollar, and 4 per cent. of the amount the estate actually realizes is consumed in the process of winding it up. He pays 60 cents on the dollar; what were his liabilities;

He should pay 80c. on the dollar, or $\frac{4}{5}$ of his liabilities, but on \$20,000 of his assets he loses $\frac{1}{5}$ or \$4000, and $\frac{1}{5}$ of his recovered assets go for expenses connected with winding up, after which he pays $\frac{3}{4}$ of his liabilities,
 $\therefore \frac{4}{5} - \frac{1}{5} = (\frac{4}{5} - \$4000)\frac{3}{4}$, whence unity, *i.e.*
 his liabilities = $\$ \frac{480000}{71}$.

6. *A* gives *B* \$210 on May 11th, and in return takes his note at 5 months, agreeing not to exact interest. On June 11th, *A* sells the note to *C* for \$205, and *B* makes good to *A* the \$5 so lost. When the note falls due, *C* exacts interest at 7 per cent. per annum. Find the rate per cent. per annum gained, lost or paid by the several parties to this transaction.

A, according to his agreement, neither loses nor gains. *B* pays altogether \$221.12 $\frac{1}{2}$ for the \$210 received May 11th, which is at the rate of 12 $\frac{1}{2}$ per cent. per annum, that is, not reckoning interest on the \$5 given by *B* to *A*; if interest be reckoned rate will be higher. *C* makes 7 per cent. per annum on his money.

7. A municipality whose property is assessed at \$1,000,000 borrows \$40,000; find an

expression for the tax (rate in the dollar) that must be levied to form a sinking fund that will repay this in 10 years, money being worth 6 per cent. per annum, the taxes being levied yearly and money compounded half-yearly.

Ann. payment = amt. of debt $\times \frac{R^2 - 1}{1 - R^{-2n}}$,
 \therefore rate on the dollar

$$= \frac{40000}{1000000} \times \frac{(1.06)^2 - 1}{1 - (1.06)^{-20}}$$

8. The sides of a triangle are 4, 5, 6; find its area.

$$\text{Area} = \sqrt{s \cdot s - a \cdot s - b \cdot s - c}, \text{ where } 2s = 15.$$

$$= \frac{1}{2} \sqrt{7}.$$

9. Eight equal spherical iron balls, radius 1 foot, are just enclosed in a cubical box, and the box is then filled up with water. Compare the weights of iron and water in the box, the specific gravity of iron being 7.79.

Give the expression for the surface of a sphere in terms of its radius.

Weight of iron = $\{8(\frac{4}{3}\pi)7.79\}$ times an equal weight of water.

Space unoccupied = $\{64 - 8(\frac{4}{3}\pi)\}$ cub. ft.

$$\therefore \text{weight of iron : weight of water}$$

$$= \frac{8^{\frac{2}{3}} \cdot \pi \cdot 7.79}{64 - 8^{\frac{2}{3}} \pi}$$

$$= 8.569 : 1 (\pi = 3.1416)$$

Surface = $4\pi r^2$.

10. Shew how to determine the surface of a right circular cone.

The height of a frustrum of such a cone is 3 feet, radius of base 2 feet, and semi-vertical angle 30°; find its surface. If this surface were made of paper, and being cut from the cone were spread on a flat surface, find the dimensions of the curve formed by what was the bottom edge of the cone.

Bookwork.

Surface = $\frac{4}{3}(4\sqrt{3} - 3)$ feet. Curve is arc of a circle in length $\frac{4}{3}$ feet.

ALGEBRA.

1. If $x^2 + y^2 + z^2 + 2xyz = 1$, then

$$x^2 \{ (1 - x^2) (1 - y^2) \}^{\frac{1}{2}} + x^2 \{ (1 - y^2) (1 - z^2) \}^{\frac{1}{2}}$$

$$+ y^2 \{ (1 - z^2) (1 - x^2) \}^{\frac{1}{2}} = 1 + xyz.$$

also,

$$\left\{ \frac{1+x+2yz}{1-x} \right\}^{\frac{1}{2}} + \left\{ \frac{1+y+2zx}{1-y} \right\}^{\frac{1}{2}} + \left\{ \frac{1+z+2xy}{1-z} \right\}^{\frac{1}{2}} = \frac{x+y}{1-z} + \frac{y+z}{1-x} + \frac{z+x}{1-y}$$

Given identity becomes,

$$z(1-x^2-y^2+z^2yz)^{\frac{1}{2}} + \dots = 1+xyz,$$

or $z(x^2y^2+2xyz+z^2)^{\frac{1}{2}} + \dots = 1+xyz,$

i.e., $x^2+y^2+z^2+2xyz=1,$

we have $\left\{ \frac{1+x+2yz}{1-x} \right\}^{\frac{1}{2}} = \frac{y+z}{1-x},$

for $(1+x+2yz)(1-x) = (y+z)^2$
gives $x^2+y^2+z^2+2xyz=1.$

2. Solve the equations

(1) $x^2+4xy+y^2=13=8xy-7x^2+y^2.$

(2) $(1+x)^{\frac{2}{n}} - (1-x)^{\frac{2}{n}} = (1-x^2)^{\frac{1}{n}}.$

(1) Subtracting $x=0, \therefore y = \pm\sqrt{13},$
and $2x=y,$ whence $x = \pm 1, y = \pm 2.$

(2) Dividing both sides of the equation
by right hand member, it becomes, putting

$$\left\{ \frac{1+x}{1-x} \right\}^{\frac{1}{n}} = y,$$

$$y - y^{-1} = 1, \quad y = \frac{\pm\sqrt{5+1}}{2}, \text{ whence } x.$$

3. If a be a root of the equation
 $f(x)=0,$ then $x-a$ is a factor of $f(x).$

The equation $4x^3 - 52x^2 + 49x - 12 = 0$
has two equal roots; find all the roots.

The roots of the equation

$$x^4 - 10x^3 + 32x^2 - 38x + 15 = 0$$

are of the form $a+1, a-1, \beta+2, \beta-2$;
find all the roots.

Bookwork.

(1) $4x^3 - 52x^2 + 49x - 12 = 0$
 $= (x-a)^2(x-\beta).$

Equate coefficients

$$a = \frac{1}{2} \text{ or } \frac{3}{2}, \quad \beta = 12 \text{ or } \frac{1}{2}.$$

(2) Similarly, $a = 2$ or $\frac{1}{2}, \beta = 3$ or $\frac{1}{2},$

4. Sum the series

$$1^2 + 2^2 + 3^2 + \dots + n^2.$$

Bookwork.

5. Shew how to find the sum of an
Arithmetical Progression, having given
the first term, common difference, and
number of terms.

Sum to n terms the series whose first
term is $a,$ and the successive differences
 $b, 2b, 3b, \dots, (n-1)b.$

Bookwork; $S = na + \frac{n(n-1)b}{2}.$

6 Sum to n terms the series....

$$1 + 3x + 5x^2 + 7x^3 + \dots$$

If the natural numbers be divided into
groups 1, 2+3, 4+5+6, etc., find the
sum of the n^{th} group, also the sum of the
first n groups, and thence deduce the
sum of $1^3 + 2^3 + 3^3 + \dots + n^3.$

Let $S = 1 + 3x + 5x^2 + \dots + (2n-1)x^{n-1}.$
 $(S-1)n = x + 3x^2 + \dots + (2n-3)x^n$
 $+ (2n-1)x^{n+1}.$

Subtract and sum resulting G. P. when

$$S = 1 + \frac{2x(1-x^n)}{(1-x)^2} - \frac{(2n-1)x^n}{1-x}.$$

1st term of n^{th} group

$$= 1 + 1 + 2 + 3 + \dots + n - 1$$

$$= 1 + \frac{n(n-1)}{2}.$$

\therefore Sum of n^{th} group

$$= \left(1 + \frac{n(n-1)}{2} \right) + \left(1 + \frac{n(n-1)}{2} \right) + 1$$

$$+ \left(1 + \frac{n(n-1)}{2} \right) + 2 + \dots \text{ to } n \text{ terms}$$

$$= \frac{n^3 + n}{2}.$$

$\therefore S$ (the sum of 1st n groups)

$$= \frac{1}{2} \left\{ \frac{n(n+1)}{2} + \left(\frac{n(n+1)}{2} \right)^2 \right\}$$

by method of indeterminate coefficients,

whence $\sum n^3 = \left(\frac{n(n+1)}{2} \right)^2.$

7. Find the number of combinations
of n things, r together.

On a shelf are 20 books, of which 5
vols. are of one set, 3 of another, and 2
of another, and the rest are odd books:

find the number of different arrangements that can be made with them, each set being kept intact, though the order of books in it may be changed.

Bookwork.

Treat each set as one book, then we have 13 books, which may be arranged in 13 different ways; if, however, each set may be in order, either from right to left or from left to right, result is $2^3 \cdot 13$, \therefore each set may be arranged two ways; now, keeping the sets, the volumes of first set may be arranged among themselves in 5 ways, and so for the others; final result being $2^3 \cdot 13 \cdot 5 \cdot 3 \cdot 2$.

8. Two equal circles touch a straight line at A and B , and do not intersect, and on each of them at equal intervals are situate $2n+1$ points, A and B being such points. The only lines that contain more than two of the points are those that are parallel to AB . Find the number of triangles that can be formed by joining these points, both circles being utilized for each triangle.

Take a , or $A, a_2, a_3 \dots a_{2n+1}$; b , or $B, b_2, b_3 \dots b_{2n+1}$; as the points of division; by hypothesis and symmetry of the figure no straight line can be drawn containing more than two points except the n lines parallel to AB , each containing four points. Total number of triangles that can be formed with a_n say on the A circle and any two points on the B circle is $C(2n+1, 2)$, the same being true for every one of the $2n+1$ points on each circle; total number of triangles is $2(2n+1) C(2n+1, 2)$; this result however is attained on the assumption that no straight line contains more than two points, but all lines parallel to AB contain four points. Above result diminished \therefore by $4n$ gives

$$2(2n+1) \frac{(2n+1)2n}{2} - 4n$$

or $2n[(2n+1)^2 - 2]$ as the number of triangles.

9. Shew how to determine the greatest term in the expansion of $(a+x)^n$.

Bookwork.

10. (1) The coefficient of x^r in the expansion of $(1-x)^{\frac{3}{2}}$ is $\frac{\frac{3}{2}!}{(r!)^2} \cdot \frac{1}{2^{3r}}$.

(2) If a_r be the coefficient of x^r in the expansion of $(1+x)^n$, then, n being a positive integer,

$$\frac{a_1}{a_0} + \frac{2a_2}{a_1} + \frac{3a_3}{a_2} + \dots + \frac{na_n}{a_{n-1}} = \frac{1}{2}n(n+1).$$

(1) Coefficient of x^r

$$\begin{aligned} &= \frac{\frac{3}{2}(\frac{3}{2}+1)(\frac{3}{2}+2) \dots (\frac{3}{2}+r-1)}{(r!)^2} \\ &= \frac{3 \cdot 5 \cdot 7 \dots (2r+1)}{(r!)^2} \cdot \frac{1}{2^r} \\ &= \frac{1 \cdot 2 \cdot 3 \cdot 4 \dots (2r+1)}{(r!)^2} \cdot \frac{1}{2^r \cdot 2^r} \\ &= \frac{\frac{3}{2}!}{(r!)^2} \cdot \frac{1}{2^{3r}}. \end{aligned}$$

(2) $\frac{a_1}{a_0} = n, \frac{2a_2}{a_1} = n-1, \text{ etc.} = \text{etc.}$

$$S = n + (n-1) + \dots + 3 + 2 + 1 = \frac{n(n+1)}{2}$$

EUCLID.

1. Where would the difficulty in the theory of parallel lines present itself, if they were defined to be such that a transversal falling on them made the alternate angles equal?

2. If there be two straight lines the rectangle contained by their sum and one of them is equal to the square on that one together with the rectangle contained by the two straight lines.

3. In any triangle the squares on the two sides are together double of the squares on half the base and on the straight line joining its bisection with the opposite angle.

If a point be taken such that the sum of the squares on the lines joining it to the an-

gular points of a square is equal to three times the square itself, the locus of the point is a circle whose diameter is equal to a side of the square.

4. The angle at the centre of a circle is double the angle at the circumference upon the same part of the circumference.

Hence shew that the angle in a segment less than a semi-circle is greater than a right angle, and in one greater than a semi-circle is less than a right angle.

5. If a point be taken within a circle the rectangle under the segments of any chord through it is constant. Prove only the general case.

Given, the vertical angle and base of a triangle, and also the rectangle contained by the difference between the other two sides and one of them, construct the triangle.

6. Describe a circle to touch three given straight lines.

If the three points in which an escribed circle of a triangle touches the sides be joined, the triangle so formed will be obtuse-angled.

7. AB is a given straight line, C its middle point, and D another fixed point in it. CE is drawn at right angles to AB and in it any point F is taken; FD is produced to G , so that as F changes its position in CE the rectangle FD, DG is always equal to the rectangle AD, DB , shew that the locus of G is a circle.

8. Triangles of the same altitude are one to another as their bases.

Triangles are to one another in the ratio compounded of the ratios of their altitudes and bases; prove this after the manner of Euclid.

9. To describe a rectilinear figure that shall be similar to one and equal to another given rectilinear figure.

Intermediate.

ARITHMETIC.

1. (a) Find the L. C. M. of 545, 26487, 1853, 11421.

(b) One kind of brick is $4\frac{1}{2}$ inches long

and $2\frac{3}{4}$ high; another 5 inches long and $3\frac{1}{2}$ high. What is the size of the least piece of wall, height being same as length, that can be constructed of either kind of brick?

(a) 105815565.

(b) L. C. M. of $\frac{9}{2}$ and $\frac{11}{4}$ is $\frac{99}{8}$.

" " 5 and $\frac{7}{2}$ is $\frac{35}{2}$.

" " $\frac{99}{8}$ and $\frac{35}{2}$ is $\frac{3465}{2}$.

∴ a wall of height = length = $\frac{3465}{2}$ in.

is the least piece that can be constructed as required.

2. Define the numerator and denominator of a fraction, and from your definitions prove

that $\frac{2}{3} \times 5 = \frac{10}{3}$, $\frac{2}{3} \times \frac{5}{7} = \frac{10}{21}$.

Bookwork.

3. Simplify

$$\left\{ \frac{\frac{1}{2} \text{ of } 11\frac{1}{2} + \frac{1}{7} \text{ of } 7\frac{3}{4}}{33\frac{1}{2} - 6\frac{1}{2}} + 8\frac{1}{10} \right\} \div \left\{ \frac{\frac{1}{2} \text{ of } 6\frac{3}{4} - 2\frac{1}{2}}{25 + \frac{1}{2} \text{ of } 3\frac{1}{2}} \right\}$$

Add together $\frac{2}{3}$ of 1 wk. 2 dys. 17 hrs, $\frac{1}{4}$ of 17 hrs. 23 min. 26 sec., and $\frac{1}{4}$ of 2 days.

$173\frac{3}{4}\frac{1}{4}\frac{1}{4}$; 5 dys. 21 hrs. 11 min. $53\frac{1}{8}$ sec.

4. Describe briefly the metric system of measures.

If a gallon contain 277 cub. in., and a dekalitre contain 17.6077 pints, express a metre in inches.

$$1 \text{ dekalitre} = \frac{1}{100} \text{ cb. metre.}$$

$$= \frac{277}{8} \times 17.6077 \text{ cb. in.}$$

$$\therefore 1 \text{ metre} = \sqrt[3]{\frac{277 \times 1760.77}{8}} \text{ in.}$$

$$= 39.36 \text{ in.}$$

5. If A walk 7 hours a day, and B 6 hours a day, and if, under like conditions, B can walk 6 miles while A is walking 5, how many days will A be walking down hill a distance which B accomplished up hill in 3 days; supposing that a man's rate of walk-

ing is increased by one-third in going down hill, and decreased by one-fourth in going up.

A 's rate per day : B 's :: 35 : 36,

$\therefore A$'s rate per day down hill : B 's rate per day up hill :: 35 + $\frac{35}{3}$: 36 - $\frac{36}{4}$:: $\frac{140}{3}$: 27.

B completes an assigned distance in 3 days

$\therefore A$ completes the same distance in

$$\left\{ \frac{27 \times 3}{\frac{140}{3}} \right\} \text{ days, or } 1\frac{1}{4}\frac{2}{3} \text{ days.}$$

6. If 1,000 men can excavate a square basin whose side is 1,600 yds., and which is 30 yds. deep, in 9 months, how many will be required to excavate a square basin whose side is 2,000 yds., and which is 40 yds. deep, in 12 months?

1000 men in 9 months excavate

$$1600^2 \times 30 \text{ cb. yds.},$$

\therefore 1 man in 12 months excavates

$$\frac{1600 \times 30 \times 12}{1000 \times 9} \text{ or } 102400 \text{ cb. yds.},$$

$\therefore \frac{2000^2 \times 40}{102400}$ or $1562\frac{1}{2}$ men excavate

$2000^2 \times 40$ cb. yds, the required amount, in 12 months.

7. The hands of a clock move irregularly, the hour hand moving 5 per cent. too fast, and the minute hand 10 per cent. too slow, in 15 min. (true time) they will be together; how many minutes, measured on the face of the clock, are they apart now?

In 15 min. hr. hand goes $\frac{5}{8} \times 15$ ($1\frac{5}{8}$) or $1\frac{5}{8}$ spaces. In 15 min. min. hand goes $15 \times \frac{9}{10}$ or $13\frac{3}{2}$ spaces; difference between these = $12\frac{1}{8}$ spaces = distance hands are apart.

8. A money lender has \$1,500 out at 8 per cent., \$1,200 at 7 $\frac{1}{2}$, and \$1,000 at 6; find the percentage he receives on the average.

Ans. $7\frac{1}{3}$ per cent.

9. A mortgage for \$1,000, paying 7 per cent. per annum, payable yearly, has two years to run; what should a loan society give for the mortgage that it may receive 8 per cent. on its investment, it being assumed that all moneys received by the society can be lent out at 8 per cent.

Let P be present value of the mortgage
\$ [1000 + 70 + 70 + 100 (70)] = P (1.08)²
 $P = \$982.167 +$

ALGEBRA.

1. Factor $x^3 + y^3$; and $x^3 + y^3 + z^3 - 3xyz$.

Utilize your results to shew that

$$(1) (x+z)^3 + (y-z)^3 - (x+y)(x-y+2z)^3 \\ = (x+y)(yz - zx + xy - z^2).$$

$$(2) (a^2 - bc)^3 + (b^2 - ca)^3 \\ + (c^2 - ab)^3 - 3(a^2 - bc)(b^2 - ca)(c^2 - ab) \\ = (a^3 + b^3 + c^3 - 3abc)^3.$$

$$x^3 + y^3 = (x+y)(x^2 - xy + y^2), \\ x^3 + y^3 + z^3 - 3xyz \\ = (x+y+z)(x^2 + y^2 + z^2 - yz - zx - xy).$$

$$(x+z)^3 + (y-z)^3 = (x+z+y-z) [(x+z)^3 \\ - (x+z)(y-z) + (y-z)^3]$$

$$= (x+y) [yz + zx + xy - z^2 + (x-y+2z)^3].$$

$$(a^2 - bc)^3 + \dots - 3(a^2 - bc)(b^2 - ca)(c^2 - ab) \\ = (a^2 - bc + \dots) [(a^2 - bc)^3 + \dots \\ - (c^2 - ab)(b^2 - ca) - \dots]$$

$$= (a^2 - bc + \dots) (a^3 + b^3 + c^3 - 3abc) \\ = (a^3 + b^3 + c^3 - 3abc)^3.$$

2. If $a^2 - bc = b^2 - ca$, and a be not equal to b , then $a(b^2 + bc + c^2) + b(c^2 + ca + a^2) + c(a^2 + ab + b^2) = 0$.

Given $a^2 - b^2 = bc - ca$, which becomes on dividing through by $a - b$, $a + b + c = 0$.

$$\text{Thus, } a(b^2 + bc + c^2) + \dots = 0,$$

$$\text{if } a(a^2 - bc) + \dots = 0,$$

$$\text{or } a^3 + b^3 + c^3 = 3abc.$$

$$\text{Now } (a+b+c)^3 = 0 = a^3 + \dots$$

$$+ 3a^2(b+c) + \dots + 6abc,$$

$$\therefore a^3 + \dots + 3a^2(-a) + \dots + 6abc = 0,$$

$$i.e. a^3 + b^3 + c^3 = 3abc.$$

3. Find the conditions that $x^3 + ax^2 + b$ and $x^3 + cx + d$ may have a L. C. M. of the form $x^3 + px^2 + qx + r$.

Let $x^2 + tx + v$ be the G. C. M. of the two given expressions, then $(x^3 + ax^2 + b) (x^3 + cx + d) = (x^2 + tx + v) (x^3 + px^2 + qx + rx + s)$. Equate coefficients of like powers of x , eliminate t and v , after which the conditions required may be found.

4. Simplify

$$\frac{(x+y)z^3}{(y-z)(z-x)} + \frac{(y+z)x^3}{(z-x)(x-y)} + \frac{(z+x)y^3}{(x-y)(y-z)}.$$

Given expression = $\frac{(x^2 - y^2)^2 + \dots}{(y-x)(x-x)(x-y)}$
 $= yz + zx + xy.$

5. Extract the square root of

(1) $2 \left(1 - \frac{b^2 + c^2 - a^2}{2bc} \right)$

$\left(1 - \frac{c^2 + a^2 - b^2}{2ca} \right) \left(1 - \frac{a^2 + b^2 - c^2}{2ab} \right).$

(2) $x^4 + x^3 + \frac{29}{4}x^2 + \frac{7}{2}x + \frac{49}{4}.$

(1) Given expression

$= \frac{(a^2 - b - c^2)(b^2 - c - a^2)(c^2 - a - b^2)}{4a^2b^2c^2}$

whose sq. root is

$\frac{(b+c-a)(c+a-b)(a+b-c)}{2abc}.$

(2) $x^2 + \frac{x}{2} + \frac{7}{2}.$

6. Find the value of x in

$(x+a)(b-c) + (x+b)(c-a) + (x+c)(a-b) = 0.$

Explain result.

$x = \frac{a(b-c) + b(c-a) + c(a-b)}{b-c+c-a+a-b} = 0.$

The value of x is indeterminate.

7. Find an expression for k in terms of a, b, c , that will make

$\frac{b^2 - c^2}{k-a} + \frac{c^2 - a^2}{k-b} + \frac{a^2 - b^2}{k-c},$ vanish.

Value of k is obviously $a+b+c$, for with this value, given expression

$= b-c+c-a+a-b=0.$

8. If

for every \$3 of income A has, B has \$2; for every \$12 A spends, B spends \$1; and for every \$4 A saves, B saves \$5; find the proportion of his income that A saves.

Let $3x, 12y, 4z$ be A 's income, what he spends, and what he saves respectively, then $2x, y, 5z$ are corresponding amounts for B ;

$\therefore \left. \begin{matrix} 3x = 12y + 4z \\ \text{and } 2x = y + 5z \end{matrix} \right\} 4z = \frac{3x}{2}$

A saves half his income.

9. Solve the equations

(1) $\frac{x+1}{5} + x(x-1) = (x-1)^2.$

(2) $\frac{1}{x-a} - \frac{1}{x-2a} = \frac{1}{x-3a} - \frac{1}{x-4a}.$

(3) $\frac{2x^3 + 2x^2 + 3x + 1}{x^2 + x + 1} = \frac{x^2 - x + 1}{x-1} + \frac{x^4 - x + 1}{x^2 - 1}.$

(4) $\left. \begin{matrix} x^2 + xy + y = 25 \\ x + xy + y^2 = 31 \end{matrix} \right\}$

(1) $x = \frac{2}{3}$ } On simplifying these equations, powers of x , higher than the first, vanish.

(2) $x = \frac{5a}{2}$

(3) $x = -3$

(4) Adding $(x+y)^2 + (x+y) = 56, x+y = 7 \text{ or } -8,$

$\left. \begin{matrix} x = 3 \text{ or } -\frac{11}{3} \\ y = 4 \text{ or } -\frac{13}{3} \end{matrix} \right\}$

EUCLID.

1. Shew clearly that in Book I. Euclid proves that if the three sides of a triangle be given, or two sides and the contained angle, then the triangle is determinate. (The proofs of the propositions in which this is made out are not required.)

Is there any other case in which Euclid shews that if certain parts be given the triangle is determinate?

2. If two parallel lines be also equal, the lines joining their ends are either parallel and equal or else they bisect one another.

State converses of these propositions, and prove one of such converses.

3. If a parallelogram be on the same base with a triangle, and both have the same altitude, the former is double the latter.

4. Shew that the square on the hypotenuse of a rightangled triangle is equal to the sum of the squares on the sides.

5. $ABCD$ is a quadrilateral having AD parallel to BC ; shew that if E be the bisection of AB , the triangle ECD is half the quadrilateral.

Shew also that if F be the bisection of AD , and FBC be half the quadrilateral, then the quadrilateral is a parallelogram.

6. $ABCD$ is a quadrilateral having the sides DA, DC respectively greater than BA, BC ; prove that if BA, CD meet, when produced, towards A and D , then will DA, CB meet, when produced, towards A and B .

7. Shew how to divide a straight line into two parts such that the rectangle contained

by the whole line and one part may be equal to the square on the other part.

Shew how to produce AB to C , so that the rectangle contained by AC, CB may be equal to the square on AB .

8. Construct a square equal to a given rectangle.

HIGH SCHOOL DEPARTMENT.

UNIVERSITY OF TORONTO.

ANNUAL EXAMINATIONS, 1881.

Matriculation.

HISTORY AND GEOGRAPHY—PASS.

1. Enumerate and classify, according to their forms of government, the different components of the British Empire.

2. Draw a map of Scotland, shewing the islands by which it is surrounded. Give its area, and the population of its chief cities.

3. Indicate the restrictions by which the monarchy of England was limited at the accession of William III.

4. Contrast the state of commerce, literature, and manners in England during the reigns of the first two Georges with their present state.

5. Describe, with names and dates, the Second Punic War.

6. Write brief notes on The Battle of Marathon, Pericles, Æschylus.

7. Explain the Feudal System.

8. Indicate as accurately as you can the position of the following places, and mention in what way each is best known in modern times: Tiflis, Geneva, Moscow, Munich, Pisa, Cincinnati, Oporto, Prague, Chester, New Orleans, Lyons, Bristol, Fredericton.

9. Give the ancient and modern names of the six principal rivers of *Italia Propria*. Describe their courses, and name the towns on the banks of each.

10. Give the ancient and modern names, and briefly describe the principal of the Islands of Greece.

HISTORY AND GEOGRAPHY—HONORS.

1. Write short notes on Lambert Simnel, The Spanish Armada, The Divine Right of Kings, The Long Parliament, The Trial of the Bishops, Cranmer, Hooker, Laud.

2. Mention the principal Acts of Parliament of the reign of Henry VIII.

3. Describe accurately the characters and policies of Henry VIII. and Charles I.

4. Describe briefly the causes and results of the Revolution of 1688.

5. Explain fully the following terms: Equator, Latitude, Longitude, Meridian, Zone.

6. Mention and describe the British possessions in Africa.

7. Give the area, population, principal physical features, and chief towns of New Zealand and the Province of Quebec.

ENGLISH—PASS.

1. Write a short essay on any one of the following subjects:

(1) The Age of Chivalry.

(2) The History of Universities.

(3) Sir Walter Scott.

(4) The Benefits to be Derived from Travel.

(5) "Mens sana in corpore sano."

2. Give the meaning and derivation of the following grammatical terms: *case, gender, number, person, mood, tense, voice*, and shew the extent of the use of each in English.

3. Parse the following sentence :

"Love in a hut with water and a crust,
Is—Love, forgive us!—cinders, ashes,
dust;
Love in a palace is perhaps at last
More grievous torment than a hermit's
fast."—KEATS, *Lamia*.

4. How do English substantives ending in *o*, preceded by a vowel, form their plurals? Give four examples.

5. Mention the various sources from which the language we speak is derived, and give examples of words derived from languages which contributed only a few words each to our vocabulary.

6. Shew in how far English as commonly spoken, differs from English as written by the best prose authors.

7. Explain the following terms: rhyme, rhythm, prose, poetry, syntax, etymology, orthography, orthoepy, philology, linguistic.

8. "Whom say ye that I am?"

"I will arise and go unto my father."

"I shall go home now, shall you?"

Are these expressions correct? If not, point out wherein they are incorrect.

9. Give the force in composition and examples of the use of the following particles: *dis, a, cata, en, in, inter, syn, con, pro, pre, de*.

10. Mention Sir Walter Scott's chief poetical and prose works, and give a short sketch of his life.

11. Draw a map of the district in which the scene of the "Lady of the Lake" is laid, indicating the positions of the various mountains, rivers, and lakes mentioned in the poem.

12. "Fitz-James look'd round yet scarce believed

The witness that his sight received;
Such apparition well might seem
Delusion of a dreadful dream.
Sir Roderick in suspense he eyed,
And to his look the chief replied,
"Fear naught—nay, that I need not
say—
But—doubt not aught from mine array,
Thou art my guest;—I pledged my word
As far as Coilantogle ford :

Nor would I call a clansman's brand
For aid against one vallant hand,
Though on our strife lay every vale
Rent by the Saxon from the Gael.
So move we on;—I only meant
To show the reed on which you leant,
Decming this path you might pursue,
Without a pass from Roderick Dhu."
—*Lady of the Lake*, Canto V., stanza II.

(a) *Fitz-James*. What is the force of this prefix?

(b) *The witness that his sight received*. Explain.

(c) *Coilantogle ford*. Where?

(d) *Clansman's brand*. What is meant?

(e) *Though on our strife... Gael*. Explain, and parse *though, our, strife, lay, vale, rent*.

(f) Derive: *witness, received, apparition, chief, replied, array, guest, vallant, pursue*.

ENGLISH—HONORS.

1. Sketch briefly the history of the English drama up to the time of Shakespeare.

2. Criticize the action of the play of *Julius Caesar*, comparing it with *Hamlet* and *Macbeth*.

3. Give your conception of the character of Cassius, introducing quotations where you can, in support of your view.

4. Mention the prodigies related by Casca and Calphurnia as occurring on the night preceding the Ides of March. On what day (numerically) of the month did the *Ides of March* fall?

5. "Thou shalt not back till I have borne
this corse
Into the market place."
—*Julius Caesar*, Act III., sc. 1.

Describe the relative positions of the *Capitol* and the *Forum* in Ancient Rome.

6. Where are *Sardis* and *Philippi*?

7. "I am indeed, sir, a surgeon to old shoes; when they are in great danger, I recover them."—*Julius Caesar*, Act I., sc. 1.

"And do you now put on your best attire?
And do you now call out a holiday?
And do you now strew flowers in his way,
That comes in triumph over Pompey's
blood?" —*ib.*, *ib.*

"I, as Æneas, our great ancestor,
Did from the flames of Troy upon his shoulder
The old Anchises bear, so from the waves of
Tiber
Did I the tired Cæsar."

—*Ib.*, Act I., sc. 2.

"His coward lips did from their colour fly."
—*Ib. ib.*

"Cowards die many times before their
death."
—*Ib.*, Act II., sc. 2.

Name the rhetorical figures occurring in
the above extracts.

8. Quote, or give the substance of, the
speech of Brutus in the Forum.

LATIN GRAMMAR.

1. Decline together throughout *Prudens
paterfamilias, idem nomen.*

2. Mark the gender of *humus, Ægyptus,
arbor, dolor, aes, as, lex, pons, mensis, messis,
carmen, tellus, pecus, acus, manus, merities.*

3. Write the genitive singular of *epitome,
rocer, faber, poema, pædo, caro, animal, cor
heres, as, aries, Ceres, pulvis, sanguis, sacer-
dos, custos, os, salus, tellus, senex*; and mark
the quantity of the penult were doubtful.

4. Give examples of nouns with a different
meaning in the singular and plural.

5. Compare *facilis, superus, parvus, dives,
acer, juvenis.*

6. Give the first ten cardinal, ordinal, and
distributive numerals respectively; and also
the corresponding numeral adverbs.

7. Give the principal parts of *do, sto, domo,
maneo, torqueo, sedeo, volvo, premo, cerno,
cupio, fugio, reperio.*

8. Write the present indicative active
throughout of *possum, fero, eo, malo, edo (to
eat), fio.*

9. Give the principal rules for the use of
the Dative case.

10. Translate into Latin:

He remained at Rome ten years.

We know that the sun is larger than the
earth.

We enjoy and use very many things.

It is uncertain how long life will be.

11. Translate, explaining the construction;
*Spectatum veniunt, veniunt spectentur ut
ipsæ.*

Quod non opus est, asse carum est.
Rege incolumi, mens omnibus una est.
Uno prælio victus Alexander bello victus
esset.

12. Give the rules for the quantity of final
vowels, with the principal exceptions.

LATIN PROSE—PASS.

At last, after much fruitless toil both of
men and beasts, the camp was pitched on a
height, in a spot cleared for the purpose with
the utmost difficulty, such was the quantity
of snow that had to be dug up and carried
out. Soldiers were then brought to make
passable the rock by which lay their only
practicable path, since the rock had to be
broken up. Having hewn down large trees
near by, and lopped them, they make an im-
mense heap of logs, and, as a high wind
suitable for making a fire had arisen, they set
fire to it, and crumble the glowing rocks by
pouring vinegar upon them.

Tandem nequicquam jumentum atque
homo fatigo, castrum in jugum pono, ægre ad
is ipse locus purgo; tantus nix fodio atque
egero. Inde ad rupes munio per qui unus
via sum possum miles duco, cum cædo saxum.
Arbor circa immanis dejicio detrunco que
strues ingens lignum facio, is que, cum vis
ventus aptus facio ignis coior, succendo,
ardeo que saxum infundo acetum putrefacio.

GREEK GRAMMAR.—HONORS.

1. What is the "stem" of a word? After
each of these words write its stem:—*πολίτης,
δεσπότης, ὁδός, ἀνωγών, γράφειν, γένος,
γέρας, εἶμι, εἶμι.*

2. Fill in the following classification of
the Greek consonants:

(1) By Organ—1. Gutturals: 2. Dentals:

3. Labials.

(2) By Power—1. Mutes: 2. Vocals.

3. Give a list of *feminines* of the O
declension.

4. Decline the following: *δᾶς, θρίξ, εἶς,
δάμαρ, θυγάτηρ, οἶς.*

5. What is the characteristic difference
between the conjugation in Ω and in ΜΙ?

Decline *λύω, δίδωμι*, and the Latin *solvo*. Write the original forms of *λύω* wherever the conjugation in Ω has altered them, and note how far *δίδωμι* or *solvo* keeps them.

6. Point out the differences between the Augment and Reduplication. Give a list of verbs, (a) that take the Augment *εἰ* (b) that take both the syllabic and temporal Augment.

7. Distinguish Dynamic and Phonetic change. Enumerate the principal kinds of the former, giving examples.

8. (a) Give the principal parts of the following verbs: *αἰρέω, σκεδαννυμι, σώννυμι, ἄννυμι, ἔημι, φθίνω, δάκνω*, (b) Give the 2nd sing. imperat. 2nd Aor. of *βαίνω, ἔχω, τλάω, πίνω, τίθημι, ἴστημι*.

9. Translate into Greek:

- (1) He was conscious of many wicked deeds.
- (2) Xenophon and those with him advanced to Trebizond.
- (3) He had only just gone.
- (4) They went away on the third day.

FRENCH.

1. Distinguish graphic from tonic accent, and state the laws which govern the latter.

2. Why is the circumflex used in *maitre*?

3. How does the pronunciation of the singular differ from the plural in *bœuf, œuf, nerf*?

4. Is *f* sounded in *chef-lieu* and *chef-d'œuvre*?

5. Write the plural of *maitre-ès-arts, crève-cœur, aide-de-camp, franc-maçon, bonhomme*, and give rule for each case.

6. State the gender of *crêpe, hymne, mode*.

7. When does *vingt* take the plural form?

8. Give difference in use of *second* and *deuxième*.

9. Translate: *Charles the Fifth, James the First, Edward the Sixth*.

10. How are strong verbs distinguished from weak verbs?

11. Translate:

- (1) Do you believe he will do it?
- (2) He calls him that I may speak to him.
- (3) Tell him not to give it to her.
- (4) I was born in Paris fifteen years ago.
- (5) Run to him and ask him if he intends to come to me, and to apply to me for permission.
- (6) I shall consent to it as soon as he returns from Canada.
- (7) Will you remember the songs they have sung?
- (8) They said the weather was very fine during the winter.

12. Translate:

La pacification de la Bretagne et de la Vendée enlevait à l'Angleterre l'espérance de triompher de la République en s'appuyant sur les provinces de l'Ouest. Cette puissance voyait au contraire cinquante mille hommes disponibles désormais pour quelque redoutable entreprise contre elle-même, et Hoche avait, depuis l'époque de sa brillante défense de Dunkerque, conçu la pensée d'une descente sur les côtes d'Angleterre ou d'Irlande. Le moment d'exécuter ce grand projet semblait venu, et c'était en Irlande qu'il voulait porter le premier coup à la puissance britannique.—*Lazare Hoche*, p. 198.

- (1) *La Vendée*. Where was this?
- (2) à l'Angleterre, d'Angleterre. Why is article used in one case and not in the other?
- (3) *s'appuyant*. Give past indefinite and future anterior in full.
- (4) *mille*. (a) What cardinal numbers take the plural form, and when? (b) Translate and write in full: *I was born in one thousand eight hundred and forty*.
- (5) *désormais*. Give derivation of this.
- (6) *Hoche*. Give years of his birth and death.
- (7) *conçu*. Give present infinitive.

Translate:

Say now, you fellow, do you wish to be shot? It would cost only the trouble of taking you into your garden. Do you know that the paper of the Republic is more valuable than the gold of tyrants? Listen: for this time I'll have pity on you, in consideration of your ignorance; but if you ever again hide your victuals, and refuse assignats in payment, I'll have you shot in the village square, as an example to others. Now march on, you great stupid!

—*Mad. Thérèse*, Chap. II.

EDUCATION DEPARTMENT,
ONTARIO.

JULY EXAMINATIONS, 1881.

First Class Teachers—Grade C.

COMPOSITION.

Give the sense of *either* of these passages in your own words, using the simplest English you can find, and giving the preference to short sentences:—

(1) "Reader, the ages differ greatly, even infinitely, from one another. Considerable tracts of ages there have been, by far the majority indeed, wherein the men, unfortunate mortals, were a set of mimetic creatures rather than men; without heart-insight as to this universe, and its heights, and abysses; without conviction or belief of their own regarding it at all;—who walked merely by hearsays, traditionary cants, black and white surplises, and inane confusions;—whose whole existence accordingly was a grievance; nothing *original* in it, nothing genuine or sincere but this only, their greediness of appetite and their faculty of digestion. Such unhappy ages, too numerous here below, the genius of mankind indignantly seizes, as disgraceful to the family, and with Rhadamantine ruthlessness—annihilates; tumbles large masses of them swiftly into eternal night. These are the unheroic ages; which cannot serve, on the general field of existence, except as *dust*, as inorganic manure. The memory of such ages fades away forever out of the minds of all men. Why should any memory of *them* continue? The fashion of them has passed away; and as for genuine substance, they never had any. To no heart of a man any more can these ages become lovely. What melodious living heart will search into *their* records, will sing of them, or celebrate them? Even torpid Dryasdust is forced to give over at last, all creatures declining to hear him on that subject; whereupon ensues composure and silence, and Oblivion has her own."—*Carlyle's Cromwell, Introduction, chap. V., p. 71.*

(2) Upon the whole, men do not hitherto appear to be happily inclined and fitted for

the sciences, either by their own industry, or the authority of others, especially as there is little dependence to be had upon the common demonstrations and experiments; whilst the structure of the universe renders it a labyrinth to the understanding; where the paths are not only everywhere doubtful, but the appearance of things and their signs deceitful; and the wreaths and knots of nature intricately turned and twisted: through all which we are only to be conducted by the uncertain light of the senses, that sometimes shines, and sometimes hides its head; and by collections of experiments and particular facts, in which no guides can be trusted, as wanting direction themselves, and adding to the errors of the rest. In this melancholy state of things, one might be apt to despair both of the understanding left to itself, and of all fortuitous helps; as of a state irremediable by the utmost efforts of the human genius, or the often-repeated chance of trial. The only clue and method is to begin all anew, and direct our steps in a certain order, from the very first perceptions of the senses. Yet I must not be understood to say that nothing has been done in former ages, for the ancients have shewn themselves worthy of admiration in everything which concerned either wit or abstract reflection; but, as in former ages, when men at sea, directing their course solely by the observation of the stars, might coast along the shores of the continent, but could not trust themselves to the wide ocean, or discover new worlds, until the use of the compass was known: even so the present discoveries referring to matters immediately under the jurisdiction of the senses, are such as might easily result from experience and discussion; but before we enter the remote and hidden parts of nature, it is requisite that a better and more perfect application of the human mind should be introduced. This, however, is not to be understood as if nothing had been effected by the immense labours of so many past ages; as the ancients have performed surprisingly in subjects that required abstract meditation, and force of genius. But as navigation was imperfect before the use of the

compass, so will many secrets of nature and art remain undiscovered without a more perfect knowledge of the understanding, its uses, and ways of working.—*Bacon's Great Instauration, Preface.*

ENGLISH GRAMMAR.

I. Cor. Shall remain!—

Hear you this Triton of the minnows? mark you

His absolute *shall*?

Com. 'Twas from the canon.

Cor. *Shall*!

O good, but most unwise patricians, why, You grave, but reckless, senators, have you thus

Given Hydra here to choose an officer, That with his peremptory *shall*, being but The horn and noise o' the monsters, wants not spirit

To say he'll turn your current in a ditch, And make your channel his? If he have power,

Then veil your ignorance: if none, awake Your dangerous lenity. If you are learned, Be not as common fools; if you are not, Let them have cushions by you. You are plebeians,

If they be senators; and they are no less, When, both your voices blended, the greatest taste

Most palates theirs. They choose their magistrate;

And such a one as he, who puts his *shall*, His popular *shall*, against a graver bench Than ever frown'd in Greece! By Jove himself,

It makes the consuls base! and my soul aches

To know, when two authorities are up, Neither supreme, how soon confusion May enter 'twixt the gap of both, and take The one by the other.

—*Coriolanus, Act iii., scene i.*

(i.) Parse *Hydra here to choose*, l. 10; *with, being but*, l. 11; *horn, l. 12*; *to say*, l. 14; *channel his*, l. 15; *voices, taste*, ll. 23, 24; *theirs*, l. 25; *By*, l. 29; *It*, l. 31; *To know*, l. 33; *Neither*, l. 34.

(ii.) Analyze fully from "They choose their magistrate," l. 25, to "Greece," l. 29.

(iii.) Explain the force of *with*, l. 11.

(iv.) *He'll turn your current in a ditch, And make your channel his*, ll. 14 and 15. Between whom is a comparison made in these words?

(v.) Scan ll. 8 and 12.

(vi.) Derive *absolute, officer, spirit, current power, neither, betwixt, other, then, than, when, such*.

2. Distinguish, according to Mason, between verbs of complete and verbs of incomplete predication. Criticise his views on this subject.

3. Give a full account of the functions of words ending in *ing*.

4. Distinguish the different sounds represented by the letter *e* in the English language, exemplifying each by giving at least three words in which it occurs.

5. Correct the following selections:—

"Some teach the alphabet at the first before teaching the pupils to read. By doing this it makes the pupils dull as it will take considerable in teaching them representatives of something they know nothing of, whereas if the word is taken as a whole being a representative of something that pupils are familiar with for instance if the pupil is told that OX stands for ox, they will quite easily remember this for they are quite familiar with the animal called 'ox' and this is represented by the word 'ox.'

"When the child starts first to read he ought not to be taught that OX is *ox* because the letters OX spell ox; he will learn the spelling accidentally with the reading; but he ought to have a picture of an ox shewn him and then told that the word 'ox' is ox, he will remember this like he does the picture, because it is but a picture of a word.

"This method I consider a very poor one as a child knows a great many words before it comes to school and wants to be taught the formation of these words, that is going so far from the known to the unknown and then breaking up the word into its parts is again a second step from the known to the unknown, while the method stated is beginning with an unknown leading them in the dark to, perhaps, a known, or perhaps an unknown."

6. "In this point charge him home, that he affects Tyrannical power. If he evade us there, Enforce him with his envy to the people. And that the spoil got from the Antiates, Was ne'er distributed."

(i.) Analyze fully.

(ii.) Parse "home."

7. Accentuate *exorcist, clematis*.

ENGLISH LITERATURE.

1. *Bru.* It must be by his death; and, for my part,

I know no personal cause to spurn at him,
But for the general. He would be crown'd—
How that might change his nature, there's
the question.

It is the bright day that brings forth the ad-
der

And that craves wary walking. Crown him?
—That;—

And then, I grant, we put a sting in him,
That at his will he may do danger with.
The abuse of greatness is when it disjoins
Remorse from power. And, to speak truth
of Cæsar,

I have not known when his affections sway'd
More than his reason. But 'tis a common
proof

That lowliness is young Ambition's ladder,
Whereto the climber-upward turns his face;
But when he once attains the upmost round,
He then unto the ladder turns his back,
Looks on the clouds, scorning the base de-
grees

By which he did ascend. So Cæsar may;
Then, lest he may, prevent. And, since the
quarrel

Will bear no colour for the thing he is,
Fashion it thus: that what he is, augmented,
Would run to these and these extremities;
And therefore think him as the serpent's egg,
Which, hatch'd, would, as his kind, grow
mischievous,
And kill him in the shell.

—*Julius Cæsar, Act ii., scene 1.*

(i.) Explain the meaning of 'general' and 'would,' l. 4.

(ii.) Develop fully the comparison implied in ll. 7 and 9.

(iii.) *And to speak truth, etc.* What is the connection in thought between this sentence and what precedes?

(iv.) What is the meaning of 'proof,' l. 18?

(v.) *And since the quarrel... extremities.* Paraphrase so as to express the meaning fully.

2. Sketch briefly the characters of Antony and Casca in the play of Julius Cæsar.

3. Compare the burghers of Stirling, in the *Lady of the Lake*, with the citizens of Rome in Julius Cæsar.

4. In what respects does the character of Scott's literary work most closely approach that of the work of Shakspeare?

5. Give an account of the contents of the last canto of the *Lady of the Lake*.

6. Reproduce, in your own words, Addison's account of Sir Roger de Coverley's visit to Westminster Abbey.

7. State clearly on what Dr. Johnson's fame principally rests.

HISTORY.

1. Describe the circumstances which led to the invitation to England of William of Orange, and explain the considerations which induced him to accept of it. State the causes of the discontent which followed his accession.

2. Explain the advantages over the old system of Sunderland's plan for choosing the Ministers of the Crown.

3. Give the substance of the statute of Edward III. as to High Treason. Point out its main imperfection, and shew the strained constructions to which that imperfection gave rise. What improvement was effected by the statute of William III.?

4. Explain the political significance of the impeachment of Sacheverel. What light does the trial throw on the distinctive principles of the two great parties in the state?

5. What was the object of the War of the Grand Alliance? How far was that object realized by the Treaty of Utrecht? Give the arguments for and against the Peace.

6. State the causes which tended to prevent the final Union of England and Scotland; the terms on which the Union took place, and the benefits flowing from it.

7. Explain the policy of George III., and describe his relations with successive Ministers. What constitutional change was brought about by his policy?

8. Describe the political condition of the American Colonies on the accession of George III., and explain the causes which led to their separation from England.

9. Trace the progress of the principle of Religious Toleration from the Revolution to the reign of George III., and describe the changes in the social and religious condition of the people produced by the Religious Revival of Whitfield and Wesley.

10. Give a short account of the industrial

progress of England in the eighteenth century, mentioning the chief inventions. What is the main principle underlying the "Wealth of Nations"? Describe Pitt's financial policy, and point out its political results.

GEOGRAPHY.

1. Sketch an outline map of the Mediterranean Sea, marking the countries and chief cities upon its shores, and the principal rivers which flow into it.

2. Write explanatory notes on the following points connected with the Mediterranean Sea:—

(a) Its temperature and saltness as compared with the Atlantic.

(b) The continuous flow of water into it from the Atlantic.

(c) Its influence on civilization.

3. Name and describe the physical features of the Spanish Peninsula.

4. Enumerate the British Possessions in India and Australasia; state the form of government, chief cities and productions of each.

5. Trace the Mississippi, Rhine and Elbe, from source to mouth, naming the chief towns on their banks.

6. Describe the position of Avignon, Varna, Belgrade, Lutzen, Sadowa, Granada, Antwerp, Leipsic, Rhodes; and mention any historical events connected with them.

7. Name the principal rivers of Ontario, and the counties and towns through which they pass.

ELEMENTARY MECHANICS.

1. Define a Couple, and shew that the forces composing one do not admit of a single resultant.

State the various transformations that may be made on a couple without alteration of effect. Establish the truth of one of them.

The sides of a quadrilateral are acted on by forces perpendicular to them, and proportional to them in magnitude, the forces being turned inwards. Shew that if the points of application divide the sides in a constant ratio they reduce to a couple.

2. Find the centre of gravity (1) of a triangular area; (2) of three uniform rods forming a triangle.

In the latter case, if the system be suspended by a string attached to a point in one of the sides, find the position of the point that the triangle may rest with one side vertical.

3. State Newton's Laws of Motion, and explain the nature of the reasoning by which they are arrived at.

Shew how the second and third enable us to exhibit dynamic phenomena by means of equations.

4. (1) A gun (wt. 3 tons) rests on a plane of inclination 30° to the horizon, being pointed downwards parallel to the plane; a shot of 60 lbs. is discharged from it with a velocity of 1500 feet per second. Find how far up the plane the gun will recoil.

(2) Two weights of 5 and 10 lbs. are attached by a string, the heavier hanging vertically from the edge of a smooth horizontal table on which the lighter rests. Determine the motion.

5. The normal pressure on a surface exposed to the action of a fluid is equal to the pressure on a plane horizontal surface of equal area at the same depth below the surface that the centre of gravity of the first surface is, gravity being the only force acting.

A tetrahedron whose faces are equilateral triangles, is just filled with fluid and has three of its corners in a horizontal plane; shew that when the fourth is above this plane the total pressure on all the sides is three times the total pressure when this corner is below the plane.

6. When a body is immersed in a fluid it loses a portion of its weight equal to the weight of the displaced fluid.

A sphere of radius a is composed of a substance n times heavier than water; find the radius of a spherical portion that must be hollowed from its inside that it may float in water with $\frac{1}{n}$ th of its volume above the surface.

PUBLIC SCHOOL DEPARTMENT.

[Contributed to, and under the management of, Mr. S. McAllister, Headmaster of Ryerson School, Toronto.]

THE CONVENTION OF 1881.

THE Board of Directors of the Ontario Teachers' Association have prepared an interesting, and exceptionally useful, programme for the meeting commencing the 9th of August.

The teaching of Agriculture, should certainly have some attention in a country that is essentially agricultural; and no fitter person could be selected to introduce this subject than Mr. James Mills, an old member of the Association, who now occupies the important post of President of the Agricultural College at Guelph. The teaching of Industrial Drawing is essential to our success as a manufacturing people, and should have much more attention paid to it than has hitherto been the case. It is true that a good deal of nonsense has been spoken and written upon this subject by persons not thoroughly conversant with it; but their aim is right, and, if we can just get a little wisdom to balance their aspirations, no doubt solid progress in industrial drawing will be made. We may say at once, however, that mere copying or inventing designs, however elegant or grotesque, are but a small part of what scholars should do in our schools. No teaching of drawing is worthy of the name that does not give the pupil sufficient knowledge of perspective to enable him to express his ideas with regard to ordinary solid objects, or to make copies of any that come before him.

Professor Wilson, a former President, and a warm friend of the Association, intends to address the body on "Religious Teaching in the Schools."

The Public School section has plenty of work cut out for it. Its first subject deals

with a matter that is exciting considerable attention in England, and is fast coming to the front with us—the over-supply of teachers. This, we believe, is the first time the subject will have been introduced into the deliberations of the Provincial Association, and we venture to predict that it will not be the last. Already, in various parts of the country, we find a surplus of teachers, and it will require very serious thought to decide how best to diminish this growing evil.

Representation at the Association comes up again, and we hope will be advanced a stage, if not finally settled. It certainly made no progress at the last meeting. If any representation is to take place, it must be secured by a large concession on the part of the Public School teachers. If the autonomy of the Association, in its present shape, would not be interfered with, perhaps the best plan would be to let each local Association send representatives according to its members, irrespective of the branch of the profession to which they belong.

As Model Schools begin to form an integral part of the educational machinery of the country we hear less about them, but their work is still important enough to receive special attention, and it is to be discussed at the coming meeting. Entrance work to High Schools is another matter that is to come up in this section, and it is certainly time that special attention was given to the subject. There are many intelligent teachers throughout the country who are far from thinking that the work is satisfactory. We do not see any name put forward as the introducer of the subject, but we hope that this is no indication that it will not be intelligently and vigorously dealt with.

So far as our recollection extends, there

has never yet been a convention that did not lead to some useful and practical results. It would be singular indeed, with the increasing intelligence of the teachers of Ontario, if the coming one did not leave its mark behind it. There is one bit of advice we would give to those who attend the meetings: do not let any important subject pass without formulating your ideas in the shape of resolutions upon it; otherwise your discussions will lose half their weight.

PROGRAMME

of the twenty-first annual convention of the Ontario Association for the Advancement of Education, to be held in the Public Hall of the Education Department, Toronto, August 9th, 10th, and 11th, 1881.

Tuesday, 9th.

10.45 a.m.—Treasurer's Report and General Business.

2.00 p.m.—Reports of Committees.

3.30 p.m.—“Agricultural Education in Schools.”—James Mills, M.A., Principal Agricultural College, Guelph.

8.00 p.m.—President's Address.—Mr. R. Alexander, Galt.

Wednesday, 10th.

2.00 p.m.—“Industrial Drawing, as taught in the Public Schools, Toronto,” with an Exhibition of Drawings made therein.—Mr. James L. Hughes, I.P.S., Toronto.

4.00 p.m.—Physical Education.—Mr. A. H. Morrison, Galt.

8.00 p.m.—“The Morbid Results of Persistent Overwork.”—Dr. Joseph Workman, Toronto.

Thursday, 11th.

2.00 p.m.—Election of Officers.

2.30 p.m.—“Religious Instruction in the Public Schools.”—Daniel Wilson, LL.D., President University College.

3.30 p.m.—“Uniformity of Text-Books.”—Mr. S. S. Herner, Strasburg.

8.00 p.m.—“The Relation of the Will to the Intellect in Education.”—S. P. Robins, LL.D., Montreal.

The Sections will meet during the forenoon of each day.

Public School Section.

“Over-Supply of Teachers.”—Mr. S. McAllister, Toronto.

“Representation at the Provincial Association.”—Mr. Robert McQueen, Kirkwall.

“Model Schools and Model School Work.”—Mr. James Duncan, Windsor.

“Entrance Work to High Schools.”

High School Section.

First Day.—Discussion of the Report of the Executive Committee on Mr. Crooks's Memorandum.

Second Day.—Discussion of the Report of the Committee relative to Collegiate Institutes and High Schools.

Public School Inspectors' Section.

First Day.—“How to make Teachers' Associations Effective.”

Second Day.—“A Day's Work in a Public School.” “Extension and Endorsation of Certificates.”

Third Day.—“How can we best help Teachers in their Schools?”

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EDUCATION DEPARTMENT,
ONTARIO.

JULY EXAMINATIONS, 1881.

Admission to High Schools.

ENGLISH GRAMMAR.

1. Parse—“The region destined to form such an important part of our empire, and attract universal notice, had not been previously visited by any Englishman.”

2. Analyze: “Some time after this occurrence, one of the nobles of the court, a proud, ambitious man, resolved to destroy the king and place himself on the throne.”

3. Write the past tense and the past participle of strive, win, set, loose, fetch; the present indicative second person singular of do, espy, quit; the plural possessive of woman, miss, bandit.

4. What is meant by conjunction, transitive verb, neuter gender, common noun?

5. Write a list of nouns having the same form for both singular and plural.

6. Correct any mistakes in these sentences, and give the reasons for your corrections:—

(a) I expect it was her as done it.

(b) After they had went a little ways, they returned back home again.

(c) I believe that's them.

(d) Between you and me, he is not as wise as he seems.

(e) The teacher says we will be fined if we do not attend more regular.

GEOGRAPHY.

1. Define Physical Geography, plateau, river-basin, watershed, meridian, zone; absolute monarchy, republic.

2. Name the Provinces of Canada, giving their relative positions. Also, give the name and position of the capital of each Province.

3. Of what lakes are the following rivers the outlet:—Nelson, Detroit, Severn, Richelieu, Saguenay, San Juan, Rhine, Rhone?

4. Name, in order, the seas, gulfs, bays and straits of Europe.

5. Give, as definitely as you can, the position of the following *cities*:—Chicago, Buffalo, St. Catharines, St. John, Rio Janeiro, Hull, Manchester, Glasgow. *Islands*—Skye, Funen, St. Helena, Cyprus. *Mountains*—Blanc, Cotopaxi, Vesuvius, St. Elias.

6. What are the chief productions of France, Barbary States, Hindostan, Nova Scotia, Gulf States of North America, Central America?

7. A vessel carries freights between Montreal and Cuba. What will her cargo probably be (1) on her outward trip; (2) on her return trip?

8. By what railroads would you travel in going

(1) From Hamilton to Peterboro'?

(2) From Ottawa to Barrie?

ARITHMETIC.

1. Define Subtrahend, Multiplicand, Quotient. Explain the statement—"The multiplier must always be regarded as an abstract number."

Divide 200000018760681 by sixty-three million two hundred and forty-five thousand five hundred and fifty-three.

2. Define Prime Number, Prime Factors. How do you resolve a number into its prime factors? Resolve 132288, and 107328 into their prime factors, and find the least common multiple of these numbers.

3. How many minutes are there in $\frac{1}{8}$ of a year (365 days) + $\frac{2}{3}$ of a week + $\frac{3}{4}$ of 34 days?

4. Simplify $\frac{\frac{1}{2} + \frac{1}{3}}{\frac{1}{4} - \frac{1}{5}} - \frac{9 + \frac{1}{2}}{2 + \frac{1}{2}} + 1761\frac{3}{8} - 1650\frac{1}{2}\frac{1}{4}$.

5. A grain dealer bought 5225 bushels of wheat at \$1.05 per bushel, and paid \$125 for insurance, storage, etc.; he sold .4 of the quantity at 97 cents per bushel. At what price per bushel must he sell the remainder in order to gain \$522.50 on the whole?

6. Find the quotient of .9840018 \div .00159982 to seven decimal places; and reduce .7002457 to a vulgar fraction.

7. Water, in freezing, expands about *one-ninth* in volume. How many cubic feet of water are there in an iceberg 445 feet long, 100 feet broad, and 175 feet high?

NORTH HASTINGS UNIFORM PROMOTION EXAMINATIONS, JUNE 30TH, 1881.

Entrance to Junior Third.

LITERATURE.

1. Explain the italicised words:—

"In a crack near the cupboard, with *dainties provided*,

A certain young mouse with her mother *resided*;

So securely they lived in that *snug quiet spot*,

Any mouse in the land might have *envied their lot*.

But one day the young mouse, who was *given to roam*,

Having made an *excursion* some way from her home,

On a *sudden* returned, with *such joy in her eyes*,

That her gray, *sedate parent* expressed some surprise."

2. Tell the story of "The Best Fun."

3. Write two verses of "Deeds of Kindness."

4. To whom did God give the Commandments? Write any two of them.

5. Explain or define:—

Steadily perseveres; prowling; stifled; luscious; attracted the notice; clustering leaves; paling; epitaph; ingenious device; leisurely; convinced; obstacles; deliberate; make both ends meet; incurred through ignorance.

ARITHMETIC.

1. Find the value of $402 + 4067 + 72303 + 89 + 402765 - 399847 + 7 - 8296$.

2. Add seventy-five, forty thousand and eighty, four hundred and eight thousand seven hundred and nine, five, seventy-five thousand and seventy-five, and five hundred thousand and fifty.

3. Find the difference between one million and five hundred and eighty seven thousand nine hundred and sixty nine, and multiply the remainder by 9.

4. Multiply 4479876 by 80076.

5. Divide 327654 by 32, using factors.

6. Divide 4789643 by 9203.

7. Write 379, 47, 166, 299 in Roman numerals, and CXLIV, CCXIV, and XCVII in figures.

8. A farmer sells 147 pounds of pork at 8 cents a pound, 275 pounds of flour at 3 cents a pound, 192 eggs at 8 cents a dozen, and 18 chickens at 22 cents a couple; in payment he receives \$24 worth of sugar, tea, tobacco and cotton, and the rest in nails at 4 cents a pound; how many pounds should he get?

Entrance to Senior Third.

SPELLING.

1. Punctuality. 2. I'm in a hurry. 3. Ap-
probation. 4. Childhood's hour. 5. Hal-
lowed. 6. Doubtfully. 7. Sluicer. 8. Dis-
tinguishable. 9. Perceptible. 10. Recom-
mended. 11. Leisure. 12. Adorn and enno-
ble. 13. Draughts. 14. Simpler opiate. 15.
Sage's lore. 16. Solicit. 17. Assistance.

18. Subsistence. 19. Convenient basket.
20. Initials. 21. Harangue. 22. Indus-
trious. 23. Hedger and ditcher. 24. Des-
pondence. 25. Sociable. 26. Statuary.
27. Modelled. 28. Paroxysm. 29. Futility.
30. Miniature. 31. Thralldom. 32. Glut-
tonous. 33. Engineering. 34. Mainte-
nance. 35. Submarine communication. 36.
Gnawing. 37. Unostentatious. 38. Absol-
utely necessary. 39. Separated. 40. As-
siduous. 41. Unaccustomed. 42. Authent-
icated. 43. Fancied pleasure. 44. Untam-
able. 45. Predicament. 46. Imminent jeop-
ardy. 47. Celebrated naturalist. 48. Odor-
ous cell. 49. Impudent nonchalance. 50.
Perseveringly labouring.

LITERATURE.

1. (a) The *minster* clock has just struck two.

(b) *His simpler opiate labour deems.*

(c) Some *Scilly* men are bright.

(d) A *Dervise* while journeying alone in the desert.

(e) The *pioneers* had not the slightest idea of their approach.

(f) Just outside a *line of breakers.*

(g) He was conducted to a *cavern* in a sequestered situation.

(h) The cause of this *singular procedure.*

(i) Let *Nature's Commoners* enjoy.

(j) *Addicted* to works of *supererogation.*

Explain italicized words and phrases.

2. Write a short account of the lesson on John Maynard.

3. Write out the substance of the lesson on John Adams and his Latin.

4. Write out three verses from "The Mouse's Petition."

GRAMMAR AND COMPOSITION.

<i>Subject.</i>		<i>Predicate.</i>
The good boy		learns his lessons well.

I. Divide into subject and predicate, as above:

(a) The big fire burns brightly to-night,

(b) Where are you going this summer?

(c) Milton, the English poet, wrote "Paradise Lost."

(d) Pretty soon the little pea sprouted.

(e) Once there were three peas growing in one pod.

II. Tell the parts of speech in the following sentence, giving reasons :—

"Directly in front of the tent, and at no great distance from it, a thick network of vines stretched between two trees."

III. Define Verb, Noun, Sentence, Pronoun, Subject, Predicate, Adverb.

IV. Form sentences by joining a suitable predicate with each of the following subjects :—

Rivers.	Diamonds.	Grass.
Bread.	Belleville.	Money.

V. Fill in the blanks :

When I — about six — old, as I was — to school one — a ground — ran into — in the path before —. I —, now I will have —. As there was a — of water just at hand, I — to pour — into the hole, — it should be full, and — the little — up, so that I — it. I got a — from beside a —, used for the — sweet sap, and was soon — the water in on the —.

GEOGRAPHY.

I. Sketch an outline map of South America, shewing on it the positions of the following places :—St Roque, Lima, Falkland, Horn, Orinoco, Trinidad, Chili, Panama, Andes, Cayenne.

II. Where are the following rivers, and into what does each one flow :—Mackenzie, Nile, Obi, Rhine, Niger, St. Lawrence?

III. Through what waters would you pass in sailing from Quebec to St. Petersburg?

IV. Bound British America, Europe, Indian Ocean.

V. What range of mountains would you cross in travelling from Philadelphia to San Francisco by the most direct route?

VI. Name ten large lakes of North America. Tell where they are situated.

VII. What and where are the Baltic, Sicily,

Suez, Formosa, Atlas, Cuba, Farewell, Fundy, Fraser, Winnipeg?

VIII. Define Tropic, Equator, Zone, Meridian, Island.

ARITHMETIC.

I. Multiply the sum of eighty-two, five millions six hundred thousand and eighty, forty-eight thousand five hundred and nine, seven hundred and one, thirteen millions forty-five thousand and ninety-seven, and four, by eighty thousand and seventy-nine.

II. In 5469324 feet how many miles, etc.?

III. Reduce 5 acres 149 square rods 8 square feet to square feet.

IV. A farmer sold 24 ducks at 40 cents a pair, 54 eggs at 10 cents per dozen, 960 lbs. wheat at \$1.25 a bushel, and 5000 pounds of hay at \$12 per ton; in payment he receives 356 pounds flour at 3 cents a pound, 27 pounds of sugar at 9 cents a pound, \$30.89 in cash, and the balance in pork at 8 cents a pound: how many pounds did he receive?

V. A man receives \$800 a year and spends \$1.25 a day: how much will he save in a year of 365 days?

VI. Write in Roman numerals 869, 1036, 999, and CDLX, CDXLVI, CMLXVIII, in Arabic numerals.

VII. Divide 3297654 by 497.

VIII. Define Composite Number, Prime Number, Reduction, Concrete Number, Quotient, and write the table of the weight used in weighing milk.

Entrance to Fourth Class.

SPELLING.

1. Laid siege to it.
2. Perseverance, diligent, onion.
3. Scholar, water, salary.
4. His talents attracted notice.
5. Secret counsels.
6. Registers of existence.
7. The ancient cathedral.
8. That dreadful scene.
9. Apology, embarrassment.
10. The echoing chorus sounded.
11. I was aye a truant bird.

12. A foreigner might easily represent.
13. Caterpillars, their very centre.
14. A delicious temperature of air.
15. Succeed, precede, proceed.
16. He ate eight eggs.
17. In remembrance of their flight.
18. Camels sometimes perish.
19. Preparation, separate, desperate.
20. Unleavened dough.
21. Thieves, priest, deceive.
22. A dense group collected.
23. Forcibly depicted on the human face.
24. An ingenious stratagem.
25. Retired on the main reinforcement.
26. Niagara, Ontario, Ottawa.
27. Much courage and endurance were needed.
28. So she commenced to sew her dress.
29. Complete, sleeve, potato.
30. A piece of chalk.

GRAMMAR AND COMPOSITION.

I. Classify the italicised words in the following sentence, giving reasons :—

"The first man that stepped forward to the counter was a chief, and he threw down a huge pack of furs."

II. Divide into subject and predicate :—

- (a) The nest is on the branch of a tree.
- (b) Some natural tears they dropped.
- (c) On her white breast a sparkling cross she wore.

(d) Two days afterwards, Alfred and his little army, by rapid marching, had reached Eddington.

(e) Is he at home?

III. Define *Pronoun, Verb, Adverb, Sentence, Gender, Adjective*.

IV. Parse the nouns, adjectives, and pronouns in the following sentence :—"John and his dear sister have gone by the new road to see their aunt."

V. Give the plural of *wife, leaf, sheep, day, city, glass*, and the feminine of *nephew, hero, knife, house*, and *sir*.

VI. Re-write the following, making necessary corrections in spelling and capitals :—

"do whot conshens' says is rife ;
do whot reesun says is best ;
do with aul your mind and mite ;
do your dooty and Be blest."

VII. Write, in your own words, any one of the following stories as given in the Third Reader :—

The Pine-tree Shilling.
Frederick the Great.
Brave John Maynard.

LITERATURE.

Re-write the following. For italicized expressions write their meanings ; answer the questions :—

1. He *compiled* a code of laws.
 2. The *melancholy* days are come. To what season is reference here made ? Why is it called melancholy ?
 3. An *illuminated manuscript*.
 4. Yet not *innect* it was that one like that young friend of ours.
 5. When I am in a *serious humour*. What and where is Westminster Abbey ? To what special use is it applied ?
 6. I consider that *great day* when we shall all be *contemporaries*.
 7. Victorious upon her native element. What is the native element of Britain ?
 8. Which *characterized her commercial dealings*.
 9. Which is *tantamount to saying* he is a great fool.
 10. The fall of Pontiac has been *the effect of design*.
 11. Write sentences shewing the use of the following words :—portable, eminence, deposited, incidents.
 12. The *wolf-scaring fagot that guarded the slain*.
 13. Count that day lost
Whose low descending sun
Views from thy hand
No worthy action done.
- Express the ideas contained in the foregoing verse in prose.

HISTORY AND GEOGRAPHY.

I. What alliance did Champlain form in Canada, and state what the results were ?

II. Explain what is meant by military government. When did it prevail in Canada? How was it regarded by the Canadians?

III. What were the leading events in the second campaign of the War of 1812?

IV. Name the provinces now forming the Dominion of Canada, and give the boundary of each.

V. Sail from Prince Arthur's Landing to Halifax, naming the bodies of water passed through and the cities or towns near which you pass.

VI. In travelling from Ottawa to Collingwood, what railways would you pass over and what large towns would you pass through?

VII. What and where are Minas Basin, Anticosti, Belle Isle, Race, Alleghany, Nipissing, Jamaica, Amazon, Rio Janeiro, Guinea, Cape Town, Ormuz, Madagascar, Hong Kong, Nippon, Kamtschatka, Yenesai, Archangel, Corsica, Chios?

VIII. Bound Lanark, Northumberland, and Prince Edward counties, Province of Ontario.

IX. Name the rivers flowing into (a) the Bay of Quinté, (b) flowing into the Ottawa from Ontario.

X. What are Ontario's chief markets for her *lumber, iron ore, barley, wheat, cattle, horses*?

ARITHMETIC.

I. A company consisting of 56 men received a grant of a township containing 64,000 acres. If 434 acres, 3 roods, 16 perches, are reserved for road allowances, and 1235 acres, 3 roods, 10 perches are occupied by a lake, how much would each man receive, all to share equally?

II. A stick of timber is 18 ft. long and 18 by 16 in. in breadth and thickness respectively. A block containing 10 cubic feet is to be cut off. How long should the portion to be cut off be?

III. Change 146,375,898 square inches to acres, roods, perches, etc.

IV. Divide $9 \times 13 \times 39 \times 71 \times 89$ by $78 \times 267 \times 3$.

V. On a prairie farm a farmer finds that his mowing machine cuts 6 ft. wide, and by cutting a swathe along one side of his field he can mow an acre—how long is the field?

VI. Find the L. C. M. of $\frac{3}{4}$, $\frac{1}{2}$.

VII. Find the whole cost of

(a) A pile of wood 12 ft. long, 6 ft. high, and 2 ft. wide, at \$2.25 per cord.

(b) 16 boards 2 in. thick, 9 in. wide, and 14 ft. long, at \$16.50 per M.

4769 lbs. wheat at \$1.25 per bush.

(d) 1674 lbs. hay at \$16 per ton.

VIII. Define Reduction, Fraction, Least Common Multiple.

[For the foregoing Examination Papers from North Hastings, we are indebted to the courtesy of Mr. William Macintosh, I. P. S.—Ed. C. E. M.]

IN Austria, the cause of education is greatly neglected. So poorly are teachers paid that very few persons seek the profession as a means of livelihood. There are now in that country 6,379 schools that have no permanent qualified teachers. Of these, 4,783 places have been temporarily filled with individuals who have received no suitable training; and 1,596 schools had to be closed altogether, as even those untrained teachers are beginning to become scarce.

THE Catholic press claims an increase of Catholic as against State schools in Belgium. In the province of Antwerp they have 63,469 children and 13,146 infants in their schools. In the province of Limbourg they have in all 26,831, against 7,526 in the State schools. The Jesuits have in Belgium twelve colleges, in which there were 5,106 students at the beginning of the scholastic year. Of these 1,362 are in the elementary classes.

CONTEMPORARY LITERATURE.

MOFFATT'S EXPLANATORY READERS, Standard V. MENTAL ARITHMETIC FOR THE STANDARDS: Part I., for Standards I., II. and III.; Part II., for Standards IV., V., and VI. MOFFATT'S SCHOLARSHIP ANSWERS, Midsummer, 1880. THE PUPIL TEACHERS' THIRD YEAR COURSE. Moffatt & Paige, 28 Warwick Lane, Paternoster Row, E. C., London.

THE above list of publications received from Messrs. Moffatt and Paige shew that these enterprising publishers notwithstanding the late destruction of their premises by fire are determined to push to the front as caterers to the intellectual wants of public schools.

The Reader is the last but one of a series, and is made up of varied selections on numerous topics, some important, some trifling, and some of no value at all. The epithet "Explanatory" is justified by the fact that each lesson is preceded by a list of the most difficult words in it, arranged for spelling and pronunciation, and followed by short notes elucidatory of both the matter and the difficult words of the lesson. These are intended to assist both teacher and scholar; and that they may have their full value each note has its appropriate reference number in the body of the lesson.

The printing is so good that the numbers do not mar the page, and are not likely to distract the attention of the reader. The paper is also good, and the binding substantial, and free from that stiffness so objectionable in a school-book. There are a few illustrations, but most of these are badly executed and could very well be done without.

The chief fault we have to find with the book is that it teaches reading and nothing more. There is no well-defined attempt to make the reading lesson a vehicle to convey useful knowledge. It would have greatly enhanced the value of the book, for instance,

if a series of lessons had been given in it similar to the lesson at page 137, on "The Four Sub-kingdoms of Nature." It would add to the usefulness of the book even as it stands to have a few pertinent questions at the foot of each page bearing upon its contents.

We sigh for the time when text-books on Mental Arithmetic, similar to these two-penny or three-penny books shall be found in our Canadian schools. They contain between them several thousand examples of questions ranging from "Tom had 2 nuts but ate 1; how many has he left?" to "Find the simple interest on £212 12s. 1d. at 4 per cent."

The questions very properly aim at producing the habit of quick and accurate reckoning without the aid of pen or pencil rather than at the solution of arithmetical conundrums.

Of course they are particularly suited to English schools, their exercises being largely composed of questions on sterling money.

The Scholarship Answers are those to questions given to candidates for admission to the Teachers' Training Colleges, the entrants being called Queen's Scholars.

They cover wide ground, taking in School Management, Arithmetic, Grammar, Music, Geography, History, Domestic Economy, Euclid, Algebra, Mensuration, German, French, Latin and Greek. The answers to the questions on School Management will be found of most value to Canadian readers, and are quite worth the price of the book. They deal with such subjects as the teaching of subtraction by the method of equal addition, and decomposition; suitable subjects for home lessons; means of sustaining the attention of a class during a thirty minutes' oral lesson on geography; the best form of children's work bags, and teachers' work-

aprons; the advantages of simultaneous class reading, and the dangers to be avoided; the use of a globe in giving a lesson on Day and Night; notes of a lesson on the changes of the Seasons, the process of some manufacture, a description of some agricultural machine; Post Office Orders; the proper position of the body for writing, and the right way of holding the pen. In answering the last question the author says,—“The writer should sit with his left side inclined to the desk, but not touching it, the body erect, head slightly bent, the feet resting firmly on the ground, with the left foot a little in advance of the right.” We think if any side is to be inclined to the desk it should be the right, because in every well-lighted school room the light comes from the left, and the scholar will then be enabled to take the full advantage of it; besides it is not desirable to have the left side, where the heart is beating, even in danger of being pressed against the desk. It may interest our female readers to know the answer to the question about children’s work-bags. “The most useful form of children’s work-bag is that of an envelope, broader than long, opening with a flap, which can be buttoned down when the bag is not in use. If the two ends of a yard of braid be stitched to the top corners of the bag, the bag may be suspended round the neck, so as to rest upon the lap when sitting.”

The answers to the questions on Domestic Economy will be of particular interest to our female readers. They deal with such matters as the principal kinds of stitches in sewing; the amount of material required for a plain cotton frock with short sleeves for a child four years old, the length of the body and skirt, the size of the armhole, and the length of the waist-band; the benefits of investments in building societies; the various kinds of food; the advantages and disadvantages of roasting, boiling, stewing, broiling and frying meat; rules for health, clothing and washing—when clothes should be put into cold water first and then boiled, and when they should be at once placed in boiling water.

The Pupil Teacher’s Third Year Course shews us to what extent the training of teachers is now carried in England. Here we have a text-book prepared to suit the wants not of pupil-teachers generally but of those of a particular year. The most valuable parts of this volume to our students will be those devoted to literature and music. In the hands of the teacher the book may be made a useful aid in giving questions on such subjects as algebra, arithmetic and grammar.

THE FRONTIER SCHOOLMASTER: The Autobiography of a Teacher, an account not only of Experiences in the School-room, but in Agricultural, Political and Military Life, together with an Essay on the Management of Our Public Schools, by C. Thomas. Montreal: John Lovell & Son, 1880.

THIS is an attempt to lay before the reader, the condition of schools in some of the frontier townships of Canada East, twenty or thirty years ago, in the days of “boarding round.” Mechanically, the book is quite creditable to the publishers, and for their sakes, we trust will have a large sale. Here and there throughout the narrative, there are points not wholly devoid of interest, although, as a story, the writer might have declared very emphatically, had he ever been requested to print, “God bless me, I’ve no tale to tell!” That it was written by a frontier schoolmaster, or some other frontier man, is too painfully evident on almost every page. Slipshod English, colloquial vulgarisms, and Down-Easter provincialisms, besmirch every chapter, and these, be it remembered, not as put into the mouths of Messrs. Cross, Snodgrass, Barnum or Uncle Jack, when no one would have any business to find fault with them. On page 15, he says, “I had not thought of dinner till school *was excused*.” Again, p. 17—“at four o’clock, I *excused* my pupils.” On the preceding page, there is this sentence, “I was not long, however, in dispatching those [doughnuts] placed before me, *neither the bread and butter*.” A strange use of the word allotted occurs on p. 52, “we had always been rival candidates for

academic honours, and had long allotted on entering college together." What can it mean? On p. 58, Miss Edgarton, speaking to Mr. Styles, very ambiguously remarks, "you taught yourself" last winter, I believe," to which he replies, "I only tried to teach."

It is a sad pity that Mr. Thomas did not secure the services of some fair English scholar to look over the MS. of the "Frontier Schoolmaster," in which case the following brace of sentences would never have seen the light. "For nearly two months I tried effectually to secure a situation. I became familiar with all the streets, and learned all the places of business, in that antiquated Dutch city, in my efforts to obtain employment, but *in vain*."—p. 66.

It is always disagreeable to hear trustees speak of *hiring* a teacher, but when the teacher himself informs us he was *hired*, we become infinitely disgusted.

Near the foot of p. 69, we read, "The school manager who *hired* me, endeavoured etc.," which appears all the more singular because, on the opposite page, he says, "I was *inaugurated* as teacher." "Hire," is an excellent word in its right place, but we beg to submit for the benefit of all and sundry that the teacher is *engaged*—not *hired*, as a moment's consideration will shew. It is, to say the least, cool, to find on p. 72, that Lower Canada has "an almost Arctic climate." Our Frontier Schoolmaster once had a berth in a Custom House near the "line," and suspecting a certain Mr. Towner of smuggling harness, addressed him thus: "I was not aware that they make such *harnesses* as these where you came from;" and on the following page—80—we find "*a harness*." Surely this is intolerable.

"I had remained in the Custom Office, all the while with very little to do, and had *whiled* away the time chiefly with books." In connection with this sentence, we simply wish to point out that although "*whiled*" is similarly used by many good writers nowadays, the correct form is devoid of *h*, which rather tends to obscure the meaning.

In one place, we remember seeing, "the road *lays* by our house." Mr. Thomas in-

forms us in the preface that he taught school twelve years, and one would think such experience quite extensive enough to enable anyone to overcome all the common difficulties of English composition. Skipping over a multitude of equally egregious mistakes we had marked for extract, we find one of the very worst on p. 427. We reproduce it without note or comment: "Embracing the first convenient opportunity, I inquired of a prominent school committee as to the character of the school. To my surprise he informed me it was the poorest one they had had for years."

The Essay on School Management is the best thing in the book, and worth its whole cost. In spite of the serious drawbacks the volume presents, we have no doubt that many will read it with considerable zest. Some of the characters are pretty well drawn, notably, Uncle Jack, Mr. Barnum, and Mrs. Sarjant. Mr. Niel is overdone. "Mack" and Miss Edgarton are the best figures in the sketch.

PRIMER OF FRENCH LITERATURE, by George Saintsbury. Clarendon Press Series, Oxford. Toronto: Willing & Williamson.

MR. SAINTSBURY is probably the most fit man to be found out of France to compile such a little work as this. And it is, indeed, a work that has been very much needed, the acquaintance of English-speaking nations with French literature having been too much of a broken and isolated nature, confined to a few favourite authors of picked merit, and to such of the yellow-covered productions of to-day as chance to strike the peculiar British fancy. Few Englishmen cared to form an idea of French literature as a whole, and M. Taine attacked the complicated field of English poetry before any similar international work that we are acquainted with was attempted by any one on the other side of the Channel. Indeed we may extend our remark even further, and say that the Frenchman, until a comparatively recent period, has presented a comprehensive view of the literary achievements of his countrymen. As Mr. Saintsbury remarks, "The first three chapters

of this primer, the materials of which are now open to any one, could not have been written sixty or seventy years ago without a life's labour, and the very names of most of the books and authors mentioned in them were unknown, even to the best informed Frenchmen."

The main characteristic of French literature, according to Mr. Saintsbury, and that which imparts its chief claim to interest, consists in the length of time which it covers "without any sensible break in the manifestation of real, living literary activity." The earliest French poems are not couched in a different tongue from that which is spoken in France to-day; the history of French literature "from the *Chanson de Roland* to the latest work of M. Victor Hugo is continuous without a single break, and the *Chanson* itself can be read by a person only acquainted with modern French with at least as much facility as that with which a modern Englishman can read Chaucer." There is a difference of 400 years in date between "*Roland*" and "*The Canterbury Tales*," and the only English poetry that can be called contemporaneous to *Roland* was in fact written in Anglo-Saxon; two solitary facts which go to shew what a wide difference exists between the early literatures of England and France.

THE NEW TEXT-BOOK OF CHEMISTRY,
for use in High Schools and Academies,
by Le Roy C. Cooley, Ph.D. New York :
Scribner's Sons.

Of all elementary text-books on Chemistry we have seen, this is one of the most valuable. Besides containing the most recent results of chemical investigation, it is so constructed that an intelligent study of the volume will make the reader practically familiar with the latest theories. The fundamental facts and principles of the science are simply but exhaustively treated. Those subjects only that are of most importance are brought prominently forward, and, though the scope of the work is wide, considering the size of the volume, the author has shewn commendable judgment in his

selection of topics. The frequent reviews at short intervals, while they prove the teaching ability of the editor, encourage and secure a complete mastery of the science. The experiments are well selected and the engravings are in the highest style of art. A more useful volume than Mr. Cooley's it would be hard to find, and we only regret that we possess no Canadian Chemistry of the same character and completeness.

HAND BOOK FOR BIBLE CLASSES: THE LIFE OF JESUS CHRIST, by the Rev. Jas. Stalker, M.A. 150 pp. crown 8vo. Edinburgh: T. & T. Clark; Toronto: Willing & Williamson, 1881.

IN a compendious, elegantly printed, fifty cent volume issued by an Edinburgh publishing firm, whose contributions to the literature of professional theology have won a world-wide fame, we have the story of the life of Our Lord told with all the interest with which modern critical scholarship can invest the subject, and with that charm which attaches to vivid portrait-painting and a cultured literary style. Among the better signs of the times in which we live, notwithstanding the prevailing rationalism, is the absorbing interest felt in the central figure of history, and in the Christology which the present age, with all its critical appliances and devotion, has wrought out to present to the Christian world with the exclamatory phrase: "Behold the Man!" Though the work of a clergyman, there is nothing in the volume to remind us of that ecclesiasticism which pervades so many biographies of Christ, and which imposes upon their writers the obligation of executing their work in harmony with the creeds and standards of their denominations. The story is told for its moral and spiritual beauty, with just so much of doctrine as illustrates Paul's expositions of Christ's redemptive work and mission, and with the special purpose of presenting the main features and the general course of Our Lord's life, to Bible students, and of causing "the well-known details to flow together in the reader's mind, and shape themselves into an easily comprehended whole." The divisions of the work may be

mentioned, as they mark the freshness and attractiveness of the style of treatment of the theme, which cannot fail to win popularity for the volume. These are (1) The Group round the Infant, and the Silent Years at Nazareth; (2) The Nation and the Time, treating of the theatre of His life and the two final stages of His preparation; (3) The Divisions of His Public Ministry, embracing the Year of Obscurity, the Year of Public Favour, and the Year of Opposition; and (4) The End, dealing with the Final Breach with the Nation, Jesus in presence of Death, The Trial, The Crucifixion, and finally, The Resurrection and Ascension. Appended to the work are some suggestive hints as to teachers' apparatus, and the sources from which a more extended knowledge of critical matters bearing on the Life of Christ can be gathered. These, and the accompanying questions for pupils, will be found exceedingly valuable. We confidently and heartily commend this little work to our readers.

JOHN DRYDEN, by G. Saintsbury; English Men of Letters Series, edited by John Morley. New York: Harper & Bros.; Toronto: James Campbell & Son.

MR. SAINTSBURY brings to the study of Dryden an intelligence rendered keen by the critical knowledge of more than one national literature. With the French as well as with the English ancestors of Dryden's Muse he is familiar, and can compare the later poets' *rifacimento* of Palamon and Arcite not only with Chaucer's noble work but with the sources from which the day-star of English poetry drew his inspiration. With these advantages, and a love for accuracy which enables him to correct former biographers on matters of fact even relating to so well-worn a theme as Dryden's life, there is no wonder that Mr. Saintsbury has succeeded in producing a very valuable work and one which will probably do more than hold its own in the present interesting series. Occasionally he is a little obscure, as at p. 14 where, in speaking of the English hatred of illegal bloodshed for political purposes, he refers to it

as having "in our own days brought about a political movement to which there is no need to refer more particularly." It seems to us that if the illustration was worth mentioning at all it was worth mentioning more definitely; as it is we are left to choose between the indignation caused by the massacres of Napoleon III.'s *coup d'état*, the condemnation of Governor Eyre's Jamaican brutalities and several other movements which have, more or less directly, owed their beginning to the righteous feeling in question.

OID'S HEROIDES—Epistles V., XIII., with Introduction, and Notes. Toronto: Willing & Williamson.

WE have pleasure in recommending this handy edition of the *Heroides* to the teachers of the Province. It is admirably annotated. The editor, who is evidently a practical teacher, has hit the proper mean: he gives just so much assistance as a judicious master would supply, and he gives it in such a way as to provoke thought on the part of the pupil. The text and notes also are remarkably accurate, and we feel fully justified in recommending this unpretentious volume to the consideration and study of the present generation of editors.

HOW TO TELL THE PARTS OF SPEECH, by E. A. Abbott, D.D. Boston: Roberts Brothers; Toronto: Willing & Williamson.

THIS volume is more than a mere reprint of the English edition. The American editor has made some alterations and additions which to our mind increase materially the value of the book. It is a pity that our authorized English Grammars are not characterized by the simplicity, combined with good scholarship, which render Dr. Abbott's works so valuable. We anticipate in Canadian educational circles a reaction from the analytical craze to a more practical and useful style of English teaching. The study of works like the subject of this notice will do much to imbue with simplicity the present modes of Grammar Teaching.

EDITORIAL NOTES.

EXAMINATIONS SUBSIDIARY TO
EDUCATION.

It is as easy to declaim against any particular feature of our school system as it is easy to depreciate the general work of the schools. In regard to both, however, it will be admitted, that we have erred rather in the direction of over-praising than in that of underrating our school work. It is true that the results of our educational system, in the main, are rarely allowed to work themselves out, as boys are too often removed from school to earn their living at an age when, in other countries, they are only about to matriculate. Just as fast as the necessities for their removal diminish or pass away, so fast shall we see the schools relieved from this disability. But while the schools suffer from this evil, it is all the more to be regretted that what education can be imparted, in the short period of a boy's school career, should be wasted in the misdirected effort of competitive examinations. It may be that the physical evils of the "cramming" system are not so alarmingly brought before us as in the neighbouring States. Here, however, they are bad enough. A New York journal, at the close of the recent "commencement" celebrations in various parts of the Union, gave the following pitiful list of casualties as a partial result of our present day high-pressure education. One girl, says the journal, who succeeded in winning the highest honours fell into a fit in the exhibition room, and was carried home stricken with brain fever; another, who had worked beyond her strength for a year in order to pass into the Normal School, finding that she had failed, went to the river and threw herself in; a third, a boy of fourteen, was stricken down with spinal meningitis from the long overtaxing of his brain; and even

then was kept there that he might finish his task. The most alarming fact in such cases is, that they grow more frequent every year. Last summer, at the close of the examinations, two young girls were removed to the insane asylum from the schools, and one lad of eighteen who had not "passed" blew his brains out in despair. Another youth died reciting his lessons in his delirium and scribbling problems on his pillow. Such, lightly outlined, is the picture which the "cramming" system has set before our view. But distressing as these facts are, their recital may be said to pall before the tale of accumulated misery which represents that unknown aggregate of children left each year with minds permanently impaired for the work of life; just in proportion as their brains have been overtaxed. But as the journal to which we have already referred remarks, "the worst element in this wholly factitious system is the introduction of the stimulant of notoriety into the schools. . . . It is not the thorough, quiet comprehension of their studies, or the gradual increase of mental power, or the development of high principles or finer feelings, and the establishment of solid character, which is the aim of education with either teacher or pupil; it is the trivial distinctions of the class-room or the mere getting through the school at a certain time." Now, school work of this character, which is largely typical of that that prevails throughout Ontario, cannot but lead to the most pernicious evils. Under the system, it is evident, that so far as such examinations act upon education, they ride rough-shod over instead of being subservient to it. They compel the pupil to pursue that course of "cramming" which may secure him the doubtful successes of the examination day; but will leave his mind permanently unimproved, and his faculties untutored in that

wholesome, methodical discipline which should be the aim of all true education to impart. Notoriously, moreover, the system fails to do justice to the pupils who may be the most deserving of commendation, and whose training, if it is possible to get it from a master who is ever looking at the highest numerical results of his forcing system, is likely to be more thorough if not so showy. That the system should also lead to the practice of those disreputable artifices commented upon elsewhere in the present number, is not the least indictment against it. Yet objectionable and mischievous as is the "cramming system for these periodical examinations, and keenly alive to its evils as are most of the profession, we nevertheless go on from year to year doing incalculable mischief to the immature minds of the pupils who are passed through the "grind," and seemingly indifferent to the educational failures that must result from this hot-house forcing. Tests of progress, of course, we must have, but surely some plan can be devised whereby the whole apparatus of education shall not be diverted to the purpose of working up a pupil to pass an examination. The stimulus of emulation, no doubt, is good, but when it goes beyond this to appeal to the harsh combative instincts of youth, and degrades education to the arts of the race-course, it is time to pause and reflect upon what we are about. If the competitive element must be a factor in the schools, surely it is possible to minimize the evils that wait upon its introduction, and to endeavour to make the examinations in some practicable way subsidiary to education.

CRITICISM, COMPETENT AND PERFUNCTORY.

"If the critics treat your first book ill," Carlyle once remarked to a young author, "write the second better,—so much better as to shame them." This is the counsel manifestly of wisdom, and it is at once soothing and bracing. The lesson may not be much needed thus far in the history of Canadian literature; but it applies to literary

workmanship of any kind, as much as it does to ambitious book-making. The writer of a magazine article may profit by the philosophic utterance, and even the compiler of a city directory may gain something by heeding the counsel. But the trouble authors heretofore have had, and even still have, in Canada, has arisen from the absence, and not from the rigour, of literary criticism. Of competent criticism, indeed, if we except that that has in the past ten years appeared in the *Canadian Monthly*, we may say that there has been little or none. Enterprising as are our newspapers, none of them have on their staff a specially-retained literary critic. Occasionally a creditable bit of criticism appears in their columns, exhibiting acquaintance with the functions of a critic, and indicating the capacity to fulfil the duties of one. Ordinarily, however, we have little from the newspaper press beyond the conventional and most perfunctory "book-notice." For years back a leading Toronto journal has scarcely risen to the intellectual effort of even the "book-notice,"—its columns enshrining specimens so unique in the department of literary reviewing as to lead one to question whether there was sufficient brain power in its management that would not exhaust itself by penning down "this is a book."

In the pages of this magazine from its inception, we have attempted to give some character to the reviewing of books suited to the wants of the professional readers whom we address. Our enterprise in this direction, and the pains we have taken with the task we set before us, we are glad to say, have been widely and amply appreciated— one competent critic referring in commendation of our work to "the original articles on new books," and "the able and scholarly reviews" appearing in our pages as "a marked feature" of the MONTHLY. Leading off in a new departure of this kind, and setting a high standard of critical appraisal before us, it was obviously an unpleasant duty to ply the critic's art in a department of literature that had not hitherto stood very high, and seldom had the advan-

tage of any helpful, competent criticism to test its value or to point out its shortcomings. Still more unpleasant was the task when, in addition to the duty of exposing worthless school manuals, and of pricking the bag of pretentious authorship, we had first to take by assault the entrenchments of a number of literary *banditti* who, using their professional position to become scouts for a book-house, sallied periodically forth to levy tribute on the schools, and, metaphorically, to waylay and impound the profession as hostages for the benefit of their individual fortunes. Addressing ourselves, however, to the herculean task, and in the public interest seeing the necessity for undertaking the work, we have endeavoured, so far as our ability served us, to perform the duty thoroughly. In the execution of our work, as it was hardly possible for us to fail to do, we have frequently given offence, even to the friends who supported us. Pursuing our work with independence, and first being loyal to duty, this was perhaps unavoidable. To be helpful in the work, the critic's pen should, of course, be free; though truth in his hands need be no weapon of offence. How hard it is always to recognize this, we ourselves but too well know. Yet with truth we may say, that we are conscious of never having written with malice, though occasionally we may have written with heat. We have, of course, been critical; but this we were of deliberate purpose; for our aim was not only to interest and perchance instruct, but to give a character to the magazine as an organ of critical opinion which would win respect for its utterances and do credit to the profession it represented. But with these ambitions, we have desired neither unwisely to puff, nor unjustly to condemn: our aim has been to manifest the spirit of fair play towards all, and to aid in rightly representing the literary progress of the day in connection with education. We are glad to believe that that progress has been a substantial and encouraging one, and that the future of educational book-making in Canada never promised better than at present. The quantity and quality of the work shews the

most marked improvement, even within the past two years. Our most judicious publishers, however, are not always successful in the choice of aspirants for the honours of authorship; in such cases the results of their work have occasionally called for severe criticism. This criticism has not always had to concern itself with the scholarship and intrinsic worth of the books reviewed so much as with their literary form, which, in the bulk of instances, has, from want of care and experience, been frequently faulty and inchoate. Our criticism, however little welcome it may be at the time, will, we trust, be a factor in the process of improvement, and that the future issues of the native press may receive permanent benefit from our efforts. In this, we doubt not, our readers will fully sympathize.

INDEPENDENT EDUCATIONAL JOURNALISM.

WE have read with regret the valedictory leading article of one of the most valued among our English exchanges, the *Educational Chronicle* of London and Manchester. Its editors claim that "when the *Chronicle* has ceased to exist, no educational journal will be published in England which is not the organ of some organization or institution which has interests distinct from those of education." This looks as if, apart from mere class interests, there exists in England a deplorable apathy on the subject of education. The promoters of the CANADA EDUCATIONAL MONTHLY have reason to congratulate themselves on the wider support accorded by its friends to a serial whose aim has been to advocate the interests of education, *per se*, apart from those of classes or cliques, of partizan leaders who subordinate educational interests to politics, or of members of the profession who discredit it by questionable commercial alliances. We know that the teaching profession and all interested in the elevation of our educational system have recognized the manly and independent course thus taken from the outset, and though this magazine has not the

slightest claim to be considered an organ of the Department, or to be inspired more or less clandestinely by some of those eminent artists in the noble science of book-adaptation who used to control the Central Committee, yet our readers have appreciated the value of an independent serial, able and willing to criticize without fear or favour, and with no other object in its existence than to serve the interests, pure and simple, of education, and of those honourably engaged in it. Considering that such are the facts of the case, it might have shewn wisdom, to say nothing of courtesy, had the Minister of Education evinced some desire to supplement our efforts. An organ of the profession, conducted on the principles which have guided us, might have been supposed to merit some sign of appreciation, or even of recognition, from those whose official duty it is to befriend the interests of education. Such has not been the case in our past experience; but it has made, and shall make, no difference in the independent course which the teaching profession of the country have shewn a steadily increasing willingness to support, in the CANADA EDUCATIONAL MONTHLY.

SECONDARY EDUCATION IN ENGLAND:

MR. BARING GOULD'S *Germany Past and Present* throws some remarkable light on the backward condition of Secondary Education in England, where, while the great aristocratic schools flourish, and the primary schools are being slowly but surely rescued from ecclesiasticism, the purely middle class Collegiate Institutes seem to be in a condition much behind the *lycees* in France or the Collegiate Institutes of this country and of the United States. The following extract gives a portion of the experiences of a German gentleman engaged as teacher in several of the English Secondary Schools:—

In Germany we look up to the schoolmaster, in England they look down upon him.

When I made the acquaintance of my fellow-teachers I felt that the prejudice was not without foundation. There was not one of them that could be introduced into a

gentleman's drawing-room. The second master had been a carpenter, but had failed, and had taken up the scholastic profession. He was wholly self-taught. The other ushers were boys or old young men with glossy coat-sleeves, patched small-clothes, and very dirty linen. As I entered the room with the principal one was engaged inking his stocking where a hole in his boot revealed it.

There were four masters in this school, besides the second son of the principal, who taught drawing, and the daughter, who gave lessons on the piano. I received the highest salary. The carpenter received £25 per annum. Next came the son of the curate, aged sixteen, who received £20, and assisted the carpenter in taking Latin classes. The fourth usher was a poor wretch, whose salary amounted to £15 per annum, who taught reading, writing, and arithmetic. There were from fifty to sixty boarders in this collegiate menagerie, each paying on an average £40 per annum.

The second master received me with urbanity. "Give us a flapper," was his genial salutation. I was not then very proficient in my English, and his pronunciation somewhat puzzled me. "How is it that you call horse *oss*?" I once asked him in my eagerness to acquire knowledge. "The $\frac{1}{2}$ is arbitrary in *English*," he replied; "you chuck it in or drop it promiscuous-like." The headmaster took the first class. He managed translations with a crib. Parsing was as unknown as prosody in that school. Yet it was called a "collegiate school." Just as the worst alehouses with us bear the grandest signs, so in England the most abysmal educational establishments are collegiate schools and academies.

One cause of this seems to be the "utterly utter" snobbishness with which every part of the English social system is saturated. In one of our English exchanges, we notice a letter from a Governor of the Blue Coat School, which was originally instituted for the sons of London tradesmen, to the mother of an applicant for admission to the school, rejecting her child's claims on the ground that the school is for the sons of *gentlemen*, and that the child's parent was a cloth-merchant of London! Our Collegiate Institutes in Canada are, we believe, in a far higher condition, both as to the education given and the benefit of free intermingling of all classes and ranks. It were to be regretted, should an obstacle be interposed to this healthy state of things by the foster-

ing under official patronage of any one favoured place of secondary education, with the view of maintaining a separate educational parterre for the sons of the "upper ten." In Canada we have reason to be thankful that we have no privileged class; Public opinion will give scanty thanks to any Minister of Education who tries at this time of day to create one.

TORONTO UNIVERSITY MATRICULATION EXAMINATIONS.

THE results of the recent Matriculation Examinations of the University of Toronto will be found elsewhere in our columns. The total number who came up for Matriculation maintains the high average of late years, less than fifteen per cent. of whom failed to pass. In Arts the number of candidates who presented themselves was 180, 156 of whom were successful. The following towns this year sent up the large number of Arts Matriculants:—Brantford 15, of whom 7 were women; Toronto Collegiate Institute gave 15 boys, and Upper Canada College sent 12; St. Catharines 12, of whom 1 was a woman; St. Mary's 11, of whom 2 were women; Hamilton 8 (1 woman); and Bowmanville and Elora 6 each. Naturally, of course, we expect the larger towns to send up the greater number of Matriculants, though this does not always follow; nor must the failure to be represented be taken as evidence against the work of a school. The average of years is the fairer criterion, and this must also be the test in regard to the honors taken by the candidates. One year a school may have good and abundant material, which is denied to it the next. This year it is gratifying to notice how much the honors are divided up, indicating that good training is general and that the schools whose pupils have taken honors have done good work. Collingwood, which took 5 honors secures the first General Proficiency prize. Brantford, with 19 honors, won the second General Proficiency and the Prince of Wales Scholarship. Bowmanville, with 15 honors, takes

the third General Proficiency, and, singular to say, out of six Arts men gets five of them in first class honors in mathematics! Upper Canada College, with 20 honors, carries off the fourth General Proficiency. Toronto Collegiate Institute, with 27, the highest number of honors, takes the scholarship in "Moderns." St. Mary's, with 18 honors, divides the Mathematical Scholarship with Hamilton. St. Catharines takes 15 honors; and Hamilton 8 honors, with the Classical Scholarship, and sharing* with St. Mary's the one in Mathematics. We congratulate the several schools on their success, and the honor pupils on their good fortune.

WE were pleased to observe that at the close of the last session of the Toronto Normal School, the Rev. Dr. Davies, Principal of the institution, was presented with an address from the students of the year, expressive of their appreciation of Dr. Davies's interest in their studies, and of the courtesy and impartiality with which he discharged his duties. We feel sure that there is nothing lost in amenities of this kind, and in the case of Dr. Davies we have no doubt that the compliment was deserved. The Principal we know to be a gentleman, and the recognition of the manners and bearing of one always speaks well for those who appreciate social grace and becomingly acknowledge courtesy and service.

WE regret to learn of the death of the Rev. Prof. Torrance, of the Woodstock Literary Institute, which took place on the 3rd of August at Bobcaygeon, whither he had recently gone for a change of scene and air. The deceased gentleman at the beginning of the year succeeded Prof. J. E. Wells in the principalship of the Literary Institute, at Woodstock, and had recently been appointed to a Chair in the new Baptist College, Toronto. Professor Torrance will be much missed, particularly by those of his denomination, who knew him to be an able theologian, an accomplished scholar, and a Christian gentleman.

EDUCATIONAL journalism across the line is marked by much enterprise and wins an interested support among the profession in the various States of the Union. We are just in receipt of a 30-page pamphlet, consisting of an address by Mr. C. W. Bardeen, editor of the *School Bulletin*, of Syracuse, N.Y., delivered before the New York State Teachers' Association, on the subject of "Educational Journalism." The paper entertainingly reviews the history of the various enterprises in connection with the journalism of education in the States, and adds an interesting chapter to an important department of literature. We quote from the Address the closing paragraph on the subject of Superannuation. Mr. Bardeen says: "What we teachers want, all we ask, is discrimination. Assure us that only those properly qualified shall teach at all, and that the pay of those who teach shall depend upon the degree of our qualification, and we shall leave no stone unturned to raise our qualification as high as possible. In that good time coming no pensions shall be needed either by teachers or by educational journalists." This sentiment, we feel sure, will be echoed heartily in Canada. Speaking as an educational journalist, we know that we would ourselves prefer an assured, respectable, current income to any provision for an old age—which if we were starved now we wouldn't live to see—or to any posthumous contribution to our fragrant memory.

A MUNIFICENT GIFT.—A Toronto lady, Mrs. Mary Mulock, the mother, we understand, of the present Vice-Chancellor of Toronto University, has presented \$2,000 to the Senate of that institution for the purpose of founding a scholarship in the Faculty of Arts. This generous and thoughtful act on the part of a lady ought to put to shame the many wealthy citizens of Toronto who are so lacking both in public spirit and civic pride, as to fail to support, or encourage in any way, our one National University. The University has all along been crippled for want of funds, and no public institution has greater claims upon the community than it. We

trust that the bounty of Mrs. Mulock may speedily find many who will rival her "in her good works."

UPPER CANADA COLLEGE AGAIN!

To the Editor of the C. E. Monthly.

SIR,—It appears from statements given currency in the Toronto morning journals, that extensive building operations are at once to be undertaken for the purpose of "improving" the boarding houses of Upper Canada College. It is, I presume, futile to apply to Mr. Crooks for an answer to the scriptural interrogation, "By what authority doest thou these things?" Whose sanction enables the Minister of Education to lavish public funds on an institution long ago condemned by public opinion, and whose continued existence was only secured last session by the dead weight of party influence, against the voice and vote of many of that party's most respected members? In carrying this his point, as in condoning his mismanagement of the University, and his systematic snubbing of Canadian scholarship, Mr. Crooks has for the nonce triumphed over all opposition; he is virtually autocrat and shews that he is determined to act on the principle

Sic volo, sic jubeo, stet pro ratione voluntas.

But let him not be over secure. Public opinion is one of those mills which is said to grind slowly, but to grind exceeding small. Once aroused to the evils of party dictatorship in educational matters, the commonsense of the Province is little likely to be swayed by the somewhat sluggish and regurgatory current of the Ministerial eloquence.

EDUCATOR.

[Our correspondent, we think, has fallen into error in the matter he above comments on. The "building operations" at Upper Canada College, we understand, only contemplate necessary internal improvements to the present College residence, entailing an expenditure of somewhere about \$2,000, which, we take it, will come out of the current income account of the College and not from the Provincial Treasury.—ED. C. E. M.]

UNIVERSITY OF TORONTO.

Results of the June Matriculation Examinations; Scholarships and Honors won; with the Results of the Local Examination for Women, Honors, etc.

THE following is the list, in alphabetical order, of those who have passed the Matriculation Examination in the University of Toronto in Arts and Medicine, with the list of the women who have passed the Local Examination.

MATRICULATED IN ARTS.

- Aborn, W. H., Goderich H. S.
 Armitage, W. J., Private Tuition.
 Bain, A., Toronto C. I.
 Bain, W. E. G., St. Mary's C. I.
 Baird, T. A. D., St. Catharines C. I.
 Baldwin, R., Galt C. I.
 Baldwin, W. W., Upper Canada Coll.
 Banbury, J. W., Pickering Coll.
 Bannerman, W., St. Catharines C. I.
 Barr, Miss I., Ladies' Inst., Brantford.
 Barron, A. R., Guelph and Toronto C. I.
 Bateman, E., Whitby C. I.
 Beatty, E. P., Toronto C. I.
 Bleakley, A., Bowmanville H. S.
 Bowles, R., Brampton H. S.
 Boys, T. R., Barrie C. I.
 Brownlee, J., Barrie C. I.
 Buchanan, J. H., Brantford C. I.
 Burns, S., St. George's School and Upper Canada Coll.
 Cameron, D., Windsor H. S.
 Campbell, A., Collingwood C. I.
 Campbell, W., Private Tuition.
 Carroll, Miss F. E., Gananoque H. S.
 Chisholm, W. C., Port Hope H. S.
 Cochrane, W., Brantford C. I.
 Coleman, E. C., Upper Canada Coll.
 Collins, A., Walkerton H. S.
 Crosby, T. W., Markham H. S.
 Dales, J. N., Elora H. S.
 Delury, A. T., Bowmanville H. S.
 Dewdney, A. D. A., Toronto C. I.
 Donald, J. A., St. Mary's C. I.
 Dougan, R. P., Thorold H. S. and St. Catharines C. I.
 Drummond, H. E., Newcastle H. S.
 Duff, L. P., Hamilton C. I. and St. Catharines C. I.
 Duff, R. J., Elora H. S.
 Eastwood, J. P., Peterboro' C. I.
 Eshelby, E., Ingersoll H. S.
 Evans, J. W., Toronto C. I. and Hamilton C. I.
 Farrell, H. L., Oshawa H. S.
 Field, W. H., Oshawa H. S.
 Fleming, J. H., Weston H. S.
 Garrow, A. R., Oshawa H. S.
 Gibbard, A. H., Bowmanville H. S.
 Gordon, Miss G. H., St. Mary's C. I.
 Gormley, T. J., Galt C. I.
 Green, W. D., Whitby C. I.
 Gregg, G. A., Toronto C. I.
 Gregory, J. F., St. Catharines C. I.
 Hamilton, Heber J., Collingwood C. I.
 Hamilton, R. McL., Pickering Coll.
 Harley, Miss M. P., Brantford C. I.
 Harris, R., Private Tuition.
 Hartshorn, H., London C. I.
 Haviland, H. J., Can. Lit. In., Woodstock.
 Henderson, S. A., Ottawa C. I.
 Hicks, Miss F. A., Trenton H. S.
 Higgins, E. C., Woodstock H. S.
 Hislop, T., Hamilton C. I.
 Hogarth, G. H., Bowmanville H. S.
 Hogg, K. S., Toronto C. I.
 Holmes, J. G., Clinton and St. Mary's C. I.
 Holmes, W. H., Pickering Coll.
 Hunter, G., Brantford C. I.
 Ingall, E. E., Galt C. I.
 Irving, W. H., Toronto C. I.
 Irwin, H. E., Newmarket H. S.
 Johnston, E. H., London C. I.
 Jones, S. A., Brantford C. I.
 Keane, M. J., Brampton H. S.
 Kenrick, E. B., Private Tuition and Upper Canada Coll.
 Kenrick, R. B., Private Tuition and Upper Canada Coll.
 Kerswell, W. D., Strathroy H. S.
 Kimpton, Miss L. N., Brantford C. I.
 Kinnear, L., Welland H. S.
 Kirkman, Miss B., Elora H. S.
 Knox, Miss A., St. Mary's H. S.
 Kyles, J., Newmarket H. S.
 Langley, Miss M., Brantford C. I.
 Law, J., Brantford C. I.
 Lindsey, W. L. M., Upper Canada Coll.
 Livingston, H. G., Brantford C. I. and Hamilton C. I.
 Lobb, S. W., Toronto C. I.
 Logan, W. M., Hamilton C. I.
 Macdonald, R. G., St. Catharines C. I.
 Mackay, A. E., Toronto C. I.
 Mackay, D., Brantford C. I.
 MacMurchy, D. J., Toronto C. I.
 Macoun, J., Campbellford H. S.
 Macpherson, J. A., Elora H. S.
 Martin, S., St. Mary's C. I.
 McColl, A. E., Campbellford H. S.
 McCulloch, R. O., Galt C. I.
 McGeary, J. H., Bradford H. S.
 McIntosh, F. G., Oshawa H. S. and Newcastle H. S.
 McKean, M. H., Hamilton C. I.
 McKenzie, D., St. Catharines C. I.
 McLean, A., Strathroy H. S.
 McLean, J. A., Guelph H. S.
 McLeod, A. J., Kincardine H. S.
 McMaster, J., Barrie, C. I.

McMeekin, J. W., St. Catharines C. I.
 McMillan, J., Port Perry H. S. and Col-
 lingswood C. I.
 McNeil, E. P., Uxbridge H. S.
 McPherson, N., Bowmanville.
 Mickle, G. R., Upper Canada Coll.
 Morphy, G. E., St. Mary's C. I.
 Morrin, W., Markham H. S. and Toronto
 C. I.
 Mortimore, H.,
 Mothersill, M. J., Oshawa.
 Muir, M. F., Brantford C. I.
 Murray, T. W., Strathroy H. S.
 Marty, Miss A. E., Mitchell H. S.
 Nicholls, B. F., Port Hope H. S.
 Nixon, Miss L., Brantford C. I.
 Overholt, R. D., Welland H. S.
 Parr, T. J., Woodstock H. S.
 Fair, Miss M. L., Brantford C. I.
 Reid, H. E. A., Toronto C. I.
 Riddell, F. P., Port Dover H. S.
 Robinson, Miss M. A., Bradford H. S.
 Rose, R., Ingersoll H. S.
 Ross, J., Fergus H. S. and St. Catharines
 C. I.
 Ross, R., St. Mary's C. I.
 Sanderson, W., Peterboro' C. I.
 Short, J., Elora H. S.
 Small, W. A. D., Oshawa H. S.
 Standish, W. I., Toronto C. I.
 Stevenson, A., Peterboro' C. I.
 Stewart, J. A., Barrie C. I.
 Stout, E., Rockwood Academy.
 Sykes, F. H., Toronto C. I.
 Talbot, T. N., St. Catharines C. I.
 Thompson, R. A., St. Mary's C. I. and Ham-
 ilton C. I.
 Thompson, A. B., Upper Canada Coll.
 Thompson, H. W., Upper Canada Coll.
 Thomson, J., Guelph H. S.
 Tremear, C. H., Oshawa H. S.
 Tremear, W. J., Oshawa H. S.
 Tupper, W. J., Upper Canada Coll.
 Vance, J., Ingersoll H. S.
 Vanderberg, Miss T. N., St. Catharines C. I.
 Vanstone, B. S., Lindsay H. S. and Bowman-
 ville H. S.
 Vickers, W. W., Upper Canada Coll.
 Walker, J. A., St. Catharines C. I.
 Walker, W. H., Upper Canada Coll.
 Watson, W., Elora H. S.
 Webster, C. A., St. Mary's H. S.
 Wedlake, Miss M. K., Brantford C. I.
 Welch, L. H., Strathroy H. S.
 Wells, C. P., Cobourg H. S. and Brantford
 C. I.
 Wilson, G. D., St. Mary's C. I.
 Wilton, H. B., Hamilton C. I.
 Woodworth, Miss A. M., Hamilton C. I.

MATRICULATED IN MEDICINE.

Bascom, H., Uxbridge H. S.

Bourke, E., Trin. School and Dublin, Ire-
 land.
 Canc, F. W., Newmarket H. S.
 Donald, W. McL., Goderich H. S.
 Draper, J. S., Listowel H. S.
 Goodall, W. H., Galt C. I.
 Murray, W. H., Galt C. I.
 Staebler, D. M., Berlin H. S.

The High Schools and Collegiate Insti-
 tutes represented by the matriculants in the
 Faculty of Arts, and the number passed from
 each school, are as follows:—

Barrie, 4; Bowmanville, 6; Bradford, 2;
 Brampton, 3; Brantford C. I., 15; Brant-
 ford Ladies' College, 1; Clinton, 1; Camp-
 bellford, 1; Cobourg, 1; Collingwood, 3;
 Elora, 6; Fergus, 1; Galt, 4; Gananoque, 1;
 Goderich, 1; Guelph, 3; Hamilton, 9; In-
 gersoll, 3; Kincardine, 1; Lindsay, 1; Lon-
 don, 2; Markham, 2; Mitchell, 1; New-
 market, 2; Newcastle, 2; Oshawa, 8; Otta-
 wa, 1; Port Perry, 1; Port Hope, 2; Port
 Dover, 1; Peterboro', 3; Pickering Coll., 3;
 Private Tuition, 5; Rockwood Acad., 1; St.
 Mary's, 11; St. Catharines, 12; Strathroy,
 4; Thorold, 1; Trenton, 1; Toronto, 15;
 Uxbridge, 1; Upper Canada Coll., 12; Wal-
 kerton, 1; Welland, 2; Weston, 1; Whitby,
 2; Windsor, 1; Woodstock, 2; Woodstock
 C. L. I., 1.

WOMEN'S LOCAL EXAMINATIONS.

In these examinations group 2 comprises
 mathematics; group 3, English history and
 geography and French or German; and
 group 4, Latin, English history and geo-
 graphy. The group is attached to each
 name.

Aylmer High School.—Allen, L., 2 and 3;
 Arnold, A., 2; Cutler, N., 2; Campbell, 2;
 Dredge, F., 2.

Brantford Young Ladies' College.—Cham-
 bers, A., 2 and 3; Fleming, J., 2; Miller,
 M., 2 and 3.

Dundas High School.—Cass, M., 2 and 3;
 Cody, A., 2 and 3; Kyle, A. M., 2 and 3;
 Macfarlane, R. M., 2 and 3; O'Connor, M.,
 2 and 3; Shea, M. A., 2 and 3.

Fergus High School.—Graham, M. F., 2;
 McLeister, N., 2; McPherson, A., 2; Sam-
 son, Maggie, 2; Samson, Mary, 2; Temple,
 V. E., 2 and 3.

Pickering College.—Brown, M., 2; Cronk,
 E. A., 2; Cronk, P. J., 2; Richardson, C.,
 2 and 4; Symington, M. P., 2 and 3.

Strathroy High School.—Anderson, L.,
 2; Armstrong, M., 2; Brown, A., 2;
 Campbell, E., 2; Carsen, J., 2; Cowan,
 A., 2 and 3; Hanley, N., 2 and 3; Howard,
 E., 2 and 3; Lamb, M. D., 2; MacDonald,

M., 2; Macdougall, K., 2; McRobbie, E., 2; Mortimer, J., 2; Orchard, A., 2; Rose, C., 2; Rowe, M., 2 and 3; Stephenson, M., 2 and 3.

Wrote in Toronto.—Brotherhood, A., 3, St. Catharines C. I.; Klitchen, M. M., 3, with German, Canadian Literary Institute, Woodstock.

Whitby Collegiate Institute.—Collins, M. E., 2 and 3; Cowell, K. N., 2 and 3; Cron, K. A., 2 and 3; Hatch, L. L., 2 and 3; Jones, P., 2 and 3; Mann, E. E., 2 and 3; Phillips, S., 2 and 3.

SCHOLARSHIPS.

Classics.—Logan, W. M., Hamilton C. I. *Mathematics.*—Thompson, R. A., St. Mary's and Hamilton C. I.

Modern Languages.—Sykes, F. H., Toronto C. I.

Prince of Wales Scholarship.—Hunter, G., Brantford C. I.

First Proficiency.—Hamilton, Heber J., Collingwood C. I.

Second Proficiency.—Hunter, G., Brantford C. I.

Third Proficiency.—Vanstone, B. S., Lindsay and Bowmanville H. S.

Fourth Proficiency.—Walker, W. H., U. C. C.

Kirkman, Barbara, stood highest in modern languages, but was excluded by the statute which prevents any one of twenty-three holding a scholarship.

HONORS—ARTS.

Classics—Class I.—Logan, Hunter, Ross, J., Vanstone. Class II.—Witton, Haviland, Walker, W. H., Hamilton, Webber, J., Ross, R., Baird, Henderson, Mortimore, Macdonald, Bannerman, Chisholm, Evans, Mickle, Thomson, J., Webster, Green, Riddell, Holmes, J. G., Irwin, Reid, H. E. A., Dewdney.

Latin only.—Kenrick.

Mathematics—Class I.—Thompson, R. A., Duff, Delury, Gibbard, Hamilton, Webber, J., Hogarth, McPherson, N., Martin, Reid, H. E. A., Gregg, McMeekin, Sanderson, Tremear, C. H., Vanstone, Baird, Henderson, Hunter, McGeary, Ross, R., Walker, W. H., Small, Stevenson. Class II.—Carroll, Crosby, Irwin, Dewdney, Eshelby, McMurphy, Campbell, A., Hogg, Talbot, Kimpton, Haviland, Tremear, W. J., McMaster, Standish, Wells, Ingall, Holmes, Collins, Farrell, McColl, Marty, Banbury, Phair, Chisholm, Langley, Wedlake, Bar-ron, Dougan, Mackay, D.

English—Class I.—Ross, R., Hamilton, Heber J., Kirkman, Martin, Duff, R. J.,

Thomson, J. Class II.—Henderson, Gibbard, Gordon, McMurphy, McGermie, Nixon, Langley, Baldwin, W. W., Gormley, Hunter, Stevenson, Boys, Eastwood, Holmes, McKay, D., Vanstone, Webster, Dales, Irwin, Phair, Talbot, Brownlee, Gregg, Reid, H. E. A., Short, Sykes, Johnston, McMaster, Stewart, Walker, W. H., Chisholm, Law, Thompson, A. B., Bateman, Farrell, Wilson.

History and Geography—Class I.—Irwin, Kirkman, Sykes, Carroll, Gibbard, Johnston, McKean. Class II.—Holmes, J. G., Reid, H. E. A., Ross, R., Vickers, Hunter, Vanstone, Kimpton, Short, Standish, Robinson, Walker, W. H., Bain, A., Donald, Eastwood, Thomson, A. B., Henderson, McMurphy, Martin, Mackay, D., Morphy, Sanderson, Woodworth, Boys, Dales, Kyles, Nixon, Talbot, Stevenson, Tupper, Chisholm, Gormley, Hogg, Bain, W. E. J., Baldwin, W. W., Fleming, Green, Green, Knox, Wilson, Gregg, McMaster, Thompson, H. W.

French—Class I.—Nixon, Sykes. Class II.—Robinson, Langley, Reid, H. E. A., Tupper, Chisholm, Gibbard, Kirkman, Bateman, Hamilton, Heber J., Hunter, McKean, Riddell, Vanstone, Walker, H.

German—Class I.—Sykes, Robinson, Hamilton, Heber J., Gibbard, Hunter, Marty, Kirkman, Beatty, Langley, Kimpton, Vanstone, Tupper, Ingall, Walker, W. H., Bain, A., Johnston, Nixon, Thompson, A. B., Dales, Holmes, McCulloch, Barr, Wedlake, Harley, Tremear, W. J. Class II.—McKean, Woodworth, Farrell, Irwin, Mackay, D., Baldwin, Sanderson, Small, Gordon, Hicks, Field, Thompson, H. W., Talbot, Bleakley, Vickers, Law.

MEDICINE HONORS.

Mathematics—Class I.—Murray. Class II.—Cane.

English—Class II.—Donald, Cane.

History and Geography—Class II.—Goodall, Murray, Donald.

German—Class I.—Staebler, Donald. Class II.—Goodall.

Chemistry—Class I.—Murray. Class II.—Goodall.

WOMEN'S LOCAL EXAMINATIONS.

Mathematics—Class II.—Symington.

English—Class II.—Brotherhood, Carroll, K., Kitchen.

History and Geography—Class I.—Brotherhood. Class II.—Hatch, E. L., Macfarlane.

French—Class II.—Brotherhood.

German—Class II.—Kitchen.