

Technical and Bibliographic Notes / Notes techniques et bibliographiques

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

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

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear
within the text. Whenever possible, these have
been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Continuous pagination/
Pagination continue
- Includes index(es)/
Comprend un (des) index
- Title on header taken from:/
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
- Caption of issue/
Titre de départ de la livraison
- Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

| | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 10X | 12X | 14X | 16X | 18X | 20X | 22X | 24X | 26X | 28X | 30X | 32X |
| | | | | | | ✓ | | | | | |

THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL CHRONICLE.

MAY—JUNE, 1880.

THE TEACHER VS. THE SCHOOLMASTER.*

BY J. E. WELLS, M.A., PRINCIPAL, LITERARY DEPARTMENT, CANADIAN
LITERARY INSTITUTE, WOODSTOCK.

I AM to-night to say something about the teacher and his work. The occasion and the theme recall to my mind a somewhat similar event of some eighteen or twenty years ago, when, fresh from college, it was my hap to address an audience upon a kindred theme. I say "kindred," but the indelible memories and associations of my childhood beget the hope that the kinship is of the distant, country-cousin kind. My subject at that time was, not the teacher, but the official of whom the teacher of to-day is, I suppose, the legitimate but as I fervently hope, the differentiated and developed descendant—the Schoolmaster. We still have masters of departments in our schools and colleges, but the typical schoolmaster of the past is, I trust, no more.

To the student of history in words there is a volume of meaning in the change of terms. The transition from schoolmaster to teacher spans a whole era in the march of intellect, and the advance of the science of mind-culture.

To me, and I dare say to many of my hearers, that old word, "schoolmaster" is a most suggestive one. What a motley array of dim and shadowy but never-to-be-forgotten forms comes trooping up, at the once familiar sound, from the regions of boyhood. How each well-remembered figure starts again into view at the bidding of the quickened memory, each standing out once more, with every well-known lineament of form and feature as distinct as of yore, and with each lineament inseparably associated with some, most probably unlovable, most surely unloved, trait of character. Such, to some of us, at least, were the

* The substance of a paper read before the Teachers' Association of Oxford, at Woodstock, December, 1879.

"tyrants of our childhood." There, in the foreground, is the embodiment of withered, decrepit old age, an old age companionless, childless, cheerless, freely venting on mischievous school-boys and school-girls the irritability and spleen, which no fond wife or gentle daughter was fated to assuage or absorb. There is the dark-shadowing brow and stern, hard face of a middle-age already wrinkled with the cares, and soured with the disappointments of life, and about as full of sympathy with the warm, impulsive heart of childhood as the Sahara of daisies and forget-me-nots. There, too, is the youth of nervous step and irascible spirit, fretted by the restraints of the school-room, and chafing inwardly with impatience for the hour to which he daily looks forward as the time of release from a prison-house to an outer world of congenial occupations and companions. Let us not forget to throw in the appropriate accompaniments around the various figures—the old, defaced arm-chair from whose upright post hangs the ominous walking-stick, or cat-o'-nine-tails—the ever-ready ferule on the writing table—the mysterious, carefully locked desk, from which comes out, on the great occasions when revolt or insurrection threatens, the murderous raw-hide, and which childish curiosity and terror have made the dread abode of a thousand other untold horrors—the old pine desks ranged around the wall, bespattered with the ink, stained with the tears, and curiously carved with the jack-knives of youthful genius—here, in one corner, an urchin half-dead with no groundless terror, blubbing over his blotted copy-book—there, in another, a trembling, cowering culprit awaiting the swift-coming vengeance for some morning misdemeanour—yonder, a third, in dire disgrace, conspicuously perched upon table or bench, with one foot in his hand, a

stick in his mouth, and the terrible dunce's cap on his head; while through the crevices of dust and cob-web which line the seven-by-nine window-pane, may be seen a fourth, ploughing his way through wintry drifts to the nearest grove, to replenish "the master's" armory and prepare, for aught he knows, a rod for his own back. Nor is the awakened memory less active in reproducing the architectural and decorative surroundings which constitute the background of the picture. There is the low-roofed, small-windowed building whose exterior is as innocent of projection, or cornice, as its brown clap-boards of paint, planted, to save the greatest possible amount of the surrounding land for its fine crop of underbrush and weeds, within a few feet of the zig zag fence of rails which bounds the treeless street.

Such the without. Within, the dingy ceiling whose want of height sometimes sadly obstructed the "master's" more vigorous disciplinary efforts with the cat-o'-nine-tails; the dark, dank walls of crumbling plaster and grinning laths, and the floor of well-worn pine or spruce, long since divorced from all connection with mop, or scrubbing-brush, giving, in its yawning crevices, ample accommodation for the dust and litter of years of literary effort.

I should be sorry to be understood as supposing that such is the invariable character of the school-day reminiscences of Canadians of my own age, or as doubting the existence here and there in the minds of more favoured auditors of memories of a very different character. I rejoice to believe that there are probably those before me whose recollections of wise, gentle, sympathetic "school-masters" and "school-mistresses," are such as to call forth rather the thrill of grateful emotion, and the tear of affectionate regret. But I count those happy, in-

deed, in whose minds these suggestive titles are not inseparably associated with sobs and tears and cries on the one side, and the harsh notes of the vulgar, angry, scolding, the bitter raillery, or the mocking sarcasm, so intolerable to the sensitive spirit of childhood, on the other.

Coming more immediately to my subject I wish to-night to direct your thoughts, not exclusively to the presiding geniuses of such institutions as I have attempted to describe, nor yet to their more honoured fellow-labourers who tread in academic halls or discuss profundities in college lecture-rooms. I wish rather to speak of the office of the man, or the woman, whose work it is to school the growing mind, to study and watch over its daily unfoldings, stimulating, correcting, guiding the operations of its various faculties, and aiming to secure to each a vigorous growth and to the whole a symmetrical development.

This work is, I aver, if rightly understood, essentially the same in kind and in dignity, whether carried on in a 12 x 14 log school-house, or beneath the stately dome of an imperial university. In either case it demands, to a considerable extent, on the part of the worker, the same close study of the constitution and workings of the human mind, the same breadth of view, the same unflagging zeal and energy, and the same strength and singleness of purpose.

There can be no doubt that the value and dignity of the teacher's profession, as a profession, have risen very much in the public mind in Canada within the last twenty years. May I crave your indulgence if I recur again for a moment to the memory of my own past experience in order to convey some conception of the views entertained by large classes of the patrons of the common school of twenty years ago. Having had the honour, and there would be

proof positive of some glaring defect in my views, or my work, if I could not truly regard the office as an honour—having had the honour to be village schoolmaster in several country districts, I had the best opportunities for knowing the estimation in which the office was held. Various and amusing, as well as instructive, were the sentiments expressed. This, it will be remembered, was nearly a score of years since, and in a sea-side province. Of course it cannot for a moment be supposed that any such views exist at the present day in Ontario, so deservedly proud of its system of schools and its army of intelligent and honoured teachers.

Strange and incongruous, indeed, were the views which I was constantly called upon to meet. "What easy times you have," exclaims Mr. A., as he pauses to wipe the perspiration from his brow in the hot days of harvesting. "How I wish I had nothing to do but sit in the cool shade of the school-room and hear little boys and girls read." "Such a tedious business," exclaims his neighbour B. "For my part, I would sooner break stones on the Queen's highway at two-and-sixpence per day than be stewed up day after day in that little school-room with a troop of noisy urchins." "And as for me," chimes in C, "I could never have patience to endure them, I should be sure to break half-a-dozen of their heads before night;" and he looks around in expectation of a salvo of applause for this fervent exhibition of manly spunk. But we can very well suffer such remarks from common people when such a person as Sir Walter Scott could pen such sentiments as the following. After describing the joyous burst which attends the moment of school-dismissal, he goes on: "But there is one individual who partakes of the relief afforded by the moment of dis-

missal whose feelings are not so obvious to the eye of the spectator, or so apt to receive his sympathy. I mean the teacher himself, who stunned with the hum, and suffocated with the closeness, of the school-room, has spent the whole day—himself against a host—in controlling petulance, exciting indifference to action, striving to enlighten stupidity, and labouring to soften obstinacy; and whose very powers of intellect have been confounded by hearing the same dull lesson repeated a hundred times by rote and only varied by the various blunders of the reciters. Even the flowers of classic genius with which his solitary fancy is most gratified, have been degraded in his imagination by their connection with tears, with errors, and with punishments, so that the Eclogues of Virgil and the Odes of Horace are each inseparably allied in association with the sullen figure and monotonous recitation of some blubbering school-boy. If to these mental distresses be added a delicate frame of body and a mind ambitious of some higher distinction than that of being the mere tyrant of childhood, the reader may have some conception of the relief which a solitary walk, in the cool of a fine summer evening, affords to the head which has ached, and the nerves which have been shattered for so many hours, in plying the irksome task of public instruction." What a picture of the wretched lot of the unappreciated and martyred schoolmaster!

I am reminded of a couple of stanzas by a friend of my own who used, some twenty or twenty-five years ago, to "ply the irksome task of public instruction" in a quiet village by the sea. I had loaned him a book containing on a fly-leaf some juvenile effusion in praise of the refreshing influences of an evening stroll. The book was returned with these touching lines appended:

"But one there is o'er whose pensive soul
 Eve sheds no ray of gladness;
 He returns alone from his lonely stroll,
 And his face is enshrouded in sadness.

Ah, well may his heart refuse delight,
 And his visage be clouded with sorrow,
 For the ghosts of numskulls haunt him by
 night,
 And their bodily shapes each morrow."

But all this belongs, let us hope, to a dead and buried past, buried beyond all hope of resurrection. Forever forgotten be the days when the schoolmaster was famous according as he had lifted up rods upon the big boys; when a tyrannic will, a pitiless eye, and an iron hand were much readier passports to the teacher's desk than the benevolent heart, the cultured mind, or the largest store of that subtle but mighty intellectual force which gently leads the timid and tractable, while it magnetizes and subdues the stubborn will. Ignorance no longer reigns in the sacred halls of philosophy, nor does ill-nature frown down from the usurped throne of discipline.

The schoolmaster had in the past—and I much fear the teacher has even yet—just ground for serious complaint of the want of a proper appreciation of the true, intrinsic dignity of his profession. Speaking as I am to teachers to-night, may I be pardoned if I express the opinion that for this teachers are themselves largely in fault? It is a saying no less true in some of its aspects than trite, that men and women are to a large degree taken by those around them at their own estimate of themselves. I sincerely hope for the good both of the individuals and of society that the maxim is far from being true universally. But of this there can be no doubt, that where a large proportion of the members of any guild or profession habitually think and speak disparagingly of that profession, it can never rise very high in the public

estimation. Water will not rise above the level of its source. Whatever dignity belongs to a pursuit, must be given it by those engaged in it. The man, or the woman, who has no genuine love for his or her business, no real enthusiasm in it—not to say who is half ashamed of it, speaking and acting as if apologizing for it to all around—can never hope to attain a very high grade of dignity, either personal or professional. On the other hand the one who has a profound respect for his work, I care not what the nature of that work may be, who recognizes it as *his* work, loves it, is an enthusiast in it, determined to become a workman needing not to be ashamed, dignifies not only himself but his work. Ever and everywhere it is the man who dignifies or debases the work, not the work, the man. There is a sense, a broad, true sense in which every living worker is called—called by mental constitution, by early education, by circumstances—to a special sphere of labour. Happy and honoured the man or the woman who recognizes the call as the voice of God. There is nothing which strengthens, steadies, ennoble the character, like a clear, strong conviction in the soul, that one is the right man in the right place, that he is doing the very work which he is fitted to do, and which God has given him to do. The man who guides the plough or the woman who plies the wearisome needle, strong and happy in that conviction, occupies, I verily believe, in the sight of all higher intelligences, a loftier place, and does a nobler work in the universe of God, than the philosopher in his study, or the queen on her throne, if destitute of such a conviction.

Could my mental vision be so sharpened for a few moments that I could read the consciousness of every teacher now before me, piercing, as our cousins over the line would say,

into the "true inwardness" of each, and thus learning the exact views, motives and feelings, with which each is accustomed to go about the daily task of the school-room, I wonder what results would be revealed. How many entertain an open or concealed dislike to the profession, to which they are supposed to be devoted in heart and life? How many are making it a stepping-stone to some other and in their view higher calling? How many are actuated by no worthier motive than a desire to gain, or even to honestly earn, the small remuneration it brings them? Can any one of these be expected to raise the dignity of the profession in public estimation?

How many, on the other hand, love the work for its own sake, for the sake of the influence in the realm of mind it enables them to wield, for the sake of the good it enables them to do, and throw themselves every morning with renewed energy into the work, performing it ever "as in the Great Taskmaster's eye," and in the happy consciousness of his approbation? Such and such alone are raising and will raise the profession to its true eminence, as amongst the most responsible, the most dignified, and the most ennobling of human callings.

If I can in the few moments remaining to me urge some considerations that will tend to give any teacher before me a higher conception of the dignity and the importance of the work, and so enable such a one to go back to the toil of the school-room with increased zeal, loftier aims, intenser enthusiasm, I shall have accomplished the chief purpose I have set before me in this hastily prepared paper.

And here, first of all, let us aim at gaining some clear and definite ideas as to what the teacher's true work really is. Upon this point there is

much variety and much vagueness of opinion.

Many seem to think of the Common School teacher mainly as a modern convenience employed to take charge of troublesome boys and girls and keep them out of mischief until they become able to aid their parents in discharging the great duties of life in the farm-field or the kitchen. Others again seem to regard it as his chief function to drive out bad mental and moral habits, and drive in good ones, by the vigorous application of some potent spell supposed to inhere in strips of rawhide or the tougher shoots of certain forest trees.

Others, and by far the largest number of those interested in our schools, regard them as institutions to which they may send their children to acquire certain items of information, and facility in performing certain processes, which will be useful to them in after-life. To this end this boy is to study arithmetic that he may know how to count money and reckon the price of beef or wheat; that one to attend to book-keeping because he is intended for the counter; a third to read Latin that he may get admission to a medical college or law-office; while one daughter desires to be fitted to pass a Teachers' Examination, and another to get the accomplishments, that she may shine in society, or get a position as instructor on the piano-forte.

Even amongst teachers themselves corresponding differences seem often to prevail in regard to the one great aim to be kept before their minds. Many coincide with one or another of the views just mentioned. Many others who get a step higher and conceive that their work is somehow with the *mind* and should therefore be carried on with a more direct reference to the nature and wants of the mind itself, yet appear to have very partial views of what that nature and

those wants really are. Some treat it as if its great office were to deal with quantities and numbers, performing intricate and wonderful processes upon them by use of those external symbols which we call figures, letters and signs. Others again seem to ignore the existence of any faculty save memory. They deal with the mind as if it were a vast receptacle, which it is their duty to fill with the richest treasures of the books at the rate of the greatest possible quantity in the least possible time.

Were I asked to express in one word what I conceive to be the teacher's one great work, I should reply "*Mind culture.*" And were I to go on to explain what I mean by mind culture I should wish simply to divide the subject into two great branches corresponding to the two great functions of the mind, the intellectual and the moral. Were I asked further what it should be the true teacher's aim to produce, I would answer "*Men and women.*" The great end of all true culture is to send out into the world of action, trained, cultured, high-minded, large-souled, men and women. As to the mode in which this great aim can be worked out in perfect harmony with the lower, more practical ends, which the exigencies of daily life and the necessity for daily bread will not permit us to ignore, I shall have time for but a few suggestions.

The limits of this paper forbid any attempt to analyze the intellectual powers or discuss the mode of culture best adapted to each. I may, with sufficient precision for the present purpose, speak of the mind as a system of faculties, each performing its special function but all alike dependent upon proper training for the best results. The perceptive faculties whose office it is to discover qualities in things, or begging the pardon of modern philosophy, to note resem-

blances and differences in sense *phenomena*, are no less susceptible of culture, no less dependent upon it, than the reflective, which deal in like manner with *thought phenomena*. The imagination, by means of which we mould the materials given by sense and consciousness into new forms and combinations, needs the hand of discipline no less than the reasoning power itself, whose function it is to evolve the unknown from the known by processes demanding the keenest scrutiny at every step. Even memory, which, at first thought, seems especially conditioned upon proper training for any good degree of strength, or readiness, and which is the faculty most and worst cultivated, is, in reality, no more dependent upon correct training than is that inner sense, which seems less a faculty than a feeling of keen and exquisite delight attending the highest and best exercise of every faculty, which we call taste.

I hold, then, that by the inflexible laws of our being, a process of education, of whatever character, or however gained, is the unvarying condition of the proper development of mental or brain power of any kind. And the office and aim of the true teacher are to assist nature in this development, to superintend and stimulate it. He must, as far as in him lies, see to it that no faculty of the soul is neglected—that each in its turn and sphere is vigorously exercised, and so, to the extent of its capacity, energized. It is not his mission to fit A's son for the farm, B's for the counting house, C's for the bar, and D's for the pulpit. By attempting such an impossible variety of achievements he will but distract his own attention from its proper object, and degrade his profession far below its true, lofty level, while his real work, that of training the elastic mind of youth to an independent and energetic

activity will not have been performed. Instead of so scattering his forces the wise teacher's chief aim will be to keep the mind of each pupil in vigorous exercise upon inquiries and thoughts and reasonings adapted to its stage of development. And he will do this not that the boy may be prepared to go through the routine of a given office, or the girl to attain a certain social position, but because the law of nature written in the constitution of the mind, indicates and demands such training. As Sir William Hamilton would express it, mental culture must be regarded not as a means to an end, but as an end in itself. And indeed what higher end can one set before him than that of training the powers of a human soul to their highest pitch of activity?

Let it not be thought that these views are those of a visionary or that I ignore the responsibilities devolved upon the pupil by his relation to the world of men and things which he must shortly enter. Preparation for the hard, matter-of-fact, every day life, is indispensable, and the school-room is the place where this should be, to a great extent, gained. But such preparation, so far as the teacher can successfully impart it, must be general, not special. And the best general preparation is, I hold, inherent in the strength, the flexibility, the power of concentrated attention, which are found in the highest degree only in the mind whose faculties have received the fullest and most symmetrical development. Want of time forbids illustration. I merely suggest for your own thought the direction in which the answer to the ever ready objection is to be found.

Nor, notwithstanding the number and variety of the so-called faculties, is the work of training the whole so difficult as might be supposed. The variety of exercise afforded in every school of standing is tolerably suffi-

cient. The soul is, after all, though endowed with powers so various a single entity, an indivisible unit. It is scarcely possible to call into play one set of its powers without exercising all the rest, and so strengthening the whole. The Teacher who leads his pupil on step by step in the analysis of a difficult problem in arithmetic, or an intricate passage in poetry, until he comprehends the principles that underlie the one and appreciates the thought that gives force and beauty to the other, is actually cultivating reason, judgment, imagination and taste. Holding then the true end of teaching to be the development of mind or thought power, the question naturally suggests itself, What is the best mode of developing this power, or in other words what studies or classes of studies are best adapted to secure this end? I shall take time to lay down but one or two general principles, leaving it to each to examine and follow them out to their logical results. The first and broadest principle is, it seems to me, that those studies which make the largest demands upon the largest number of faculties, have most educating power. In other words the harder any study compels the child to *think*—and the less capable it is of being pursued mechanically, or made merely a thing of rote, the better instrument is it in the hands of the teacher. But here I cannot insist too strongly upon the difference between rote, and reasoning, between committing to memory other men's thoughts and thinking. Power of independent mental action is the thing to be sought for. The teacher's aim should be not so much to communicate facts and truths as to draw out the latent ability to discover facts and to elicit and test and substantiate truths. In a word not the accumulation of knowledge but the development of power, is education.

I hope I may not be misunderstood when I speak of the teacher's duty in regard to moral training. In these days when creeds are multiplied and multiplying, when freedom of thought and expression is used and abused on every topic, when Christians and moralists are divided and subdivided into a thousand varying shades of opinion, and when rationalism and positivism and atheism even, are in fashion, the subject is a delicate one to broach. I am far from believing that the teacher should feel it his duty to impress upon the minds of his pupils his own peculiar views of religion. Nor do I even say that the teacher is bound to inculcate any particular system of morals either of his own getting up, or of any other man's. What I wish to insist on is this: So long as there exists a right and a wrong in human actions and so long as the power of discriminating between them, and the degrees of self-approbation or remorse attending them, may be indefinitely increased by proper culture, so long that teacher is highly culpable, grossly recreant to the sacred trust committed to him, who leaves these faculties to take care of themselves. It is his to train these moral powers, not by inculcating tenets and dogmas and creeds, but by constantly leading the pupil to reflect upon the moral qualities of actions, and to listen attentively to the voice of conscience. This may be done in many ways with the happiest results. The schoolmaster may seize upon moral questions which often come up, in the school-room or on the play-ground, or he may present imaginary cases and judiciously lead the pupil to examine them in the light of reason, and to try them by the golden rule and to listen attentively to every whisper of that still, small voice which speaks in every ear not totally benumbed by vicious choices. Closely connected, in fact, inextricably interwoven with

the foregoing is the all important question of school government.

It is evident to every one who reflects upon the subject and to none so evident as to the man or woman who is engaged in the work, that a certain degree of law and order is necessary to the proper discharge of the duties of the school-room. When there are brought together in one room 20, 50, or 100 children just at the ages when the spirit is most restless—the love of fun and frolic the strongest—the tide of life flowing fullest and fastest, and when, consequently, restraint of any kind is hardest to be endured, the work of mental cultivation will evidently be carried on with difficulty, unless all these impulses to noise and disorder be in some way controlled. Necessity has thus led to the establishment of a system of law and government in the school-room. By a transition, easy to be accounted for, this preservation of quiet and order in the school-room has come oftentimes to occupy the chief place in the teacher's attention. The means is exalted into the end, and the true end in a great measure often lost sight of.

The master enters the school-room with a determination not so much to train mind as to preserve order. To this end he bends his whole force of mind and, I regret to say, too often of body too. The very effort which he makes, the amount of attention he gives to this, defeats or renders very difficult of accomplishment, the object in view. The idea is, I hold, essentially wrong and self-destructive. Almost as well attempt to dam up from its accustomed channel, the rushing tide in yonder river, without providing another outlet, as strive to prevent the outgush in one way of the overflowing vitality in youth, by mere force of law, without opening up for it another passage. The electricity is there. If we would prevent its flashing off in one way we must draw

it off in another. The best theory of school government is, I conceive, comprehended in one brief sentence: "See that every pupil has each moment a work to do and a proper motive for doing it." And here I may remark that while I believe a good degree of order essential to the proper discharge of school-room duties, I have no sympathy with that system of unnatural, oftentimes cruel restraint, so frequently practiced. Those *proper* schools, where 30, or 50, or 100 pupils are supposed to be healthfully employed, and where yet a pin-fall startles one, are, I trust, long since on the wane. The laws of nature and of life brand them as unnatural and cruel. As to the character of the motives to be brought to bear in the school-room I have time for only a word. That children are reasoning beings, and as such ought to be governed chiefly by motives addressed to reason, or rather to conscience through reason, seems self-evident. Were I to attempt to lay down a universal rule on the subject, I should say that every child ought to be governed by an appeal to the very highest motive of which his nature may be found susceptible. Every one knows that all children are not capable of being influenced by equally lofty motives any more than are all adults. Every teacher knows full well that all children are not angels, at least not of that kind "who kept their first estate." If the higher motive prove insufficient then a lower and a stronger must be appealed to, provided always that it be a legitimate one. It may often be made a stepping-stone to the employment of the higher. In acting thus I conceive we are only emulating the example of that Great Teacher who alone was perfectly acquainted with the philosophy of the human mind, who "needed not that any should testify of man for He knew what was in man." To his own

chosen disciples—those who had in his own Heavenly School learned to be susceptible to the sublimest of all motives, He says, "If ye love Me, keep my commandments," while the Scribes and Pharisees, hypocrites, are made to tremble by the denunciation of the most terrible punishment.

The subject is by no means exhausted. But due regard to the time at my disposal and the patience of my hearers rendered it necessary to close somewhat abruptly. No less consideration is due to the readers of

the EDUCATIONAL MONTHLY; and therefore the subject matter of the remaining sheets, dealing with the question of rewards and punishments, especially the vexed one of corporal punishment, and the discouragements and encouragements of the teacher, must of necessity be laid aside. If any word that I have been able to say should have the effect of impressing any teacher with a deeper sense of the dignity and the responsibility of his high calling, the aim of this hastily prepared paper will have been so far attained.

HOMER FOR THE ENGLISH STUDENT.

BY THE REV. CHARLES PELHAM MULVANY, M.A., SCHOLAR T.C.D., TORONTO.

AS the most competent authority assures us that "in the Spring a young man's fancy lightly turns to thoughts of love," so in this the oncoming publishing season, the fancy of the literary student is apt to construct a fond dream of an ideal publisher. To thus build publishing houses in the air, is perhaps no more laudable employment than the designing of other *châteaux en Espagne*, yet the *motif* of this paper requires that the writer be permitted to construct out of his inner consciousness this not wholly impossible publisher as willing to risk a little, and but a little, money, in an enterprise that would surely but slowly repay itself—the supply to our educationists of a few manuals of Greek and Latin literature, intended for non-classical readers, which might enable the English student to assimilate something of the true classical spirit. It is true that some excellent manuals on these sub-

jects have been lately published in England under the editorship of Mr. Green, but these miss the point which I desiderate: the making the classical writer speak for himself; the bringing before the English reader a sufficient image of the actual writings of Homer or Virgil or Horace. This can only be done, as Mr. Matthew Arnold has clearly shewn, by rendering the classical writers into the rhythm and manner of the originals. Mere text-books of literature may go round about the subject, but unless they give ample and well-chosen specimens of the author's writings, will convey no real knowledge of the literature itself.

Our Canadian "Manual of Homer for the English Student" should begin with a brief sketch of the civilization represented by the Homeric poems, best to be obtained from Grote's early volumes, and from Mr. Gladstone's works on Homer. A

short, intelligible outline of the Siege-of-Troy myth, and the Homeric religion, should be written in the spirit of Mr. Jowett's pregnant sentence, "these early mythologies come to us from an age when morality did not exist." It should be illustrated by outline drawings of Zeus, Athena, Apollo, Aphrodite; from that perfecter anthropomorphism of Hellenic art which formed its ideals on the anthropomorphic poetry which Homer constructed out of the old primæval myths. Familiarity with classical art is the key, to a far greater extent than classical educators seem to appreciate as yet, to a right understanding of the poetry of Hellas. The illustrations would not cost our publisher much, so he will not be niggard in supplying them. Then will follow a popularly-written criticism of the Homeric poetry, the nature of the hexameter rhythm can be brought home to the English reach by reminding him of "Evangeline," and without mention of dactyls, spondees, or cæsuras, pointing out that each line ends with a foot of two syllables, before which almost invariably is a foot of three syllables—an ideal type of which is to be found in the words "strawberry pudding," the earlier part of the line being mixed up of the three-syllable foot and the two-syllable foot at pleasure. In describing what has been said of the Homeric poetry by those best qualified to speak, large extracts should be given from Mr. Matthew Arnold's essay on the subject, the attention of the reader being especially directed to what is there said with an incomparable insight and felicity of expression, as to the possession above all other writing by the Homeric verse of "the grand manner." So prefaced, a series of extracts from Homer will follow, choosing a sufficient variety of scenes from those that crowd the canvas of the Iliad, to place before the reader an adequate idea of what the Homeric

life was—the life of king and hero, of priest, warrior and woman; the sacrifice, the council, the battle, the home. This should be done in language as nearly as possible reproducing the language of Homer himself, the reader's attention being called to the sameness of epithet which, as Mr. Herbert Spencer ("First Principles") has pointed out, is like the sameness of attitude and dress in archaic statues and pictures, contrasting as it does with the free movement and life-like expression of the poetry in which this survival of a more primitive art is found. I think the extracts ought to begin with the opening verses, in which Homer invokes the Muse, the goddess of poetry, such invocation being of course a survival of the more primitive times (see "First Principles" for a most eloquent passage on this subject) when poetry was not yet differentiated from religion.

Goddess! declare the wrath of the son of
 Peleus—ACHILLES,
 Working woe, which smote with manifold
 grief the ACHAÏANS;
 Many the souls of the brave it sent untimely
 to Hades—
 Souls of the heroes, whose bodies it gave to
 dogs for a portion,
 And to the fowls of the air; but the will of
 Zeus was fulfilling,
 Even from the time when first these two
 were parted in anger;
 Atreus' son the King of Men and noble
 Achilles.

The next extract points out how the god Apollo (the sun-god, the fardarted of his shafts, the sunbeams) is angry with the Achaïans (dwellers on the *sea-coast* of Helles, from root *ach*, a piercing sound, or *ache*, an echo—the echo of the sea waves), because their King, Agamemnon, insulted his Priest Chryses. It is a primæval aspect of clericalism versus the State.

Who was it then of the gods that impelled
them striving together?

Son was he of Leto and Zeus. For he being
angered,

Sent on the host an evil plague, but the
people were dying.

For that Atreus' son had done despite to
his prophet,

Chryses, for he had come where lay the
ships of Achaia,

Willing to ransom his child, and bearing
gifts that were priceless,

And in his hand he held the wreaths of far-
darting Apollo

High on a golden wand, and he spake to all
the Achaians,

But to those twain the Atridæ first, the chiefs
of the people.

"Atreus' sons, and others, the mail-clad
men of Achaia!

So may grant you the gods, in the homes¹ of
Olympus abiding,

Capture of Priam's city, and safe return to
your homeland;

Only loose my child from bonds and take ye
the ransom,

Fearing the son of Zeus, the king, far-darting
Apollo."

But King Agamemnon refuses.

So the old man spake, but the other Ach-
aians applauded,

Willing to loose the maid and take the
generous ransom.

But not so did it please the king of men,
Agamemnon,

For he dismissed him in wrath, and stern
was the word that he added.

Not again, old man, at the hollow ships let
me find thee,

Either lingering now, or afterward hither
returning,

Lest there avail thee not, the gifts of the
god, or his garland.

But I will not release the maid, till age come
upon her,

There in my home in Argos, far away from
her homeland,

So shall she ply the loom and deck my bed
in the palace.

Chryses appeals to Apollo for ven-
geance.

Thus he spake, but the old man feared his
word and obeyed him.

Silent he went on his way by the shore of the
clangorous ocean,

Thereon going apart, with many a prayer he
entreated

King Apollo, the god, conceived of fair-
haired Leto.

Apollo, to avenge his priest, shoots
his arrows at the Achaian army.

So he spake in his prayer and was heard by
Phœbus Apollo,

Down the Olympian steep he quickly went
in his anger,

Bearing his bow on his shoulder, and well-
wrought roof of his quiver,

Rattled the shafts on his shoulder as in fierce
wrath he proceeded,

Speeding along, and his presence then was
murk as the midnight.

Hard by the ships he sat, and sent his arrows
among them.

Terrible then was the twang of his silver
bow as he bent it.

* * * * *

Nine whole days through the host thus
ranged the deity's arrows,

So that the funeral fires of the dead were
constantly burning,

But on the tenth Achilles called the host to
a council.

At this council—an assembly of the
vassal kings, under the presidency of
Agamemnon—the kings were the
speakers, Agamemnon having su-
preme power to act, the army in
general attending and giving free
expression to their feelings. At the
request of Achilles, the prophet Cal-
chas explains the reason of Apollo's
anger, and adds that Agamemnon
must send back the girl Chryseis
("the golden one") to her father
Chryses, to Chrysa, where he lived.
Agamemnon is angry, and threatens
to replace Chryseis by taking away

the slave girl belonging to one of the other kings. Achilles resents this as unfair. Agamemnon then declares he will take away Briseis, the slave girl given to Achilles from among the captives. "Then taking heart to speak, thus said the excellent prophet":—

"Not for vow unpaid is he wroth or hecatomb stinted,
But for his priest whom late the king Agamemnon insulted,—
Neither releasing his daughter, nor yet accepting the ransom,
Therefore sends the Far-Darter plagues, and still will he send them,
Nor will he stay at all his heavy hand in his anger,
Till that the bright-eyed maid be sent once more to her father,—
Sent without ransom or price, and a sacred hecatomb offered
There at Chrysa's shrine, and thus alone can we please him."

King Agamemnon is angry.

He having said these things, thereupon sat down; but amongst them
Rose the hero Atrides, the king of men—
Agamemnon,
Full of wrath, in his heart the black blood worked in his fury,
Waxing fierce, and his eyes were like to coals that are kindled,
Calchas first, with look of bitter hate, did he speak to:
"Prophet of evil! for never yet good word hast thou spoken!
Ever it glads thy soul to bring the tidings of mischief;
Never promise of good hast thou given, or brought its fulfilment;
Now thou declarest the will of the god to the Danaan army,
As if for this in sooth hath risen the wrath of Apollo,
Only because I would not release the daughter of Chryses,—
Would not, because of a truth I much prefer that the maiden

Bide in my house, since I to Clytemnestra prefer her,
Wife though she be and Queen, for not less fair is the maiden,
Peerless in face and form and grace, and skill with the needle,
Yet I will send her home again, if this be the better,
Since thou. I wish the people safe, nor love that they perish.

Achilles, threatened by Agamemnon with the loss of his slave girl, Briseis, is angry,—

Then, with angry look, replied fleet-footed Achilles,
"Ah me, sordid soul! with impudence clad as a garment,
How shall any obey thy word of all the Achaians,
Either to march on the way, or bravely fight with the foemen?
I came not aggrieved in aught by the warrior Trojans,
Hither to fight, since they in naught against me have offended,—
Never in hostile raid have they driven my oxen or horses,
Nor in the fertile fields of far-off populous Phthia
Have they the crops destroyed, for far and wide intervene there
Shadows of mountains high, and sounding billows between us,
But for pleasure of thine, O shameless one, have we followed,
Fighting in feud of thy brother and thee, O thou that art dog-faced!"

Achilles threatens that he will return home to the island of Phthia; Agamemnon rejoins:

"Well, then, fly if thou wilt! nor think that I will on my part
Pray thee for my sake to stay, with me there are others abiding
Who will pay honour due, and Provident Zeus to protect me,—
Hatefullest art thou to me of all the kings in the army;

Still taking pleasure in strife, in war and
battle delighting;
Strong if perhaps you are, some god this
boon has accorded !
Go if you will to your home, with all your
ships and your comrades,
Rule the Myrmidons there. I take no count
of your anger,
Neither care for your spite."

By this taunt Achilles is provoked
almost beyond self-control. But then
the Queen of Heaven and guardian
of the Achaians, sends Athena, the
goddess of Wisdom, to tell Achilles
to restrain himself :

So he spake, but then came on the son of
Peleus anger,
Deep in his shaggy chest his heart per-
plexed was debating
Whether to draw from his side the keen-
edged sword that was hung there,
Thrusting the others aside, and the son of
Atreus slaying.

He sees Athena standing beside
him, and addresses her,—

"Daughter of ægis-holding Zeus, why comest
thou hither?
Is it to see the pride of Atreus' son, Aga-
memnon?
Nay then, I tell thee this, and soon I think
to fulfil it,
Soon shall his insolence bring his life on
earth to an ending."

Athena promises him satisfaction,
but tells him to revile Agamemnon as
much as he pleases, but on no ac-
count to strike him; he is to with-
draw from the army and take no part
in the war; the Achaians will thus
suffer, and Agamemnon will have to
humble himself. Athena goes away
and Achilles addresses Agamemnon:

Heavy with wine: with face of a dog, with
heart of the wild deer!
Never to gird thee with arms to go with the
army to battle,
Never to hold strong post among the chiefs
of Achaia

Hast thou dared in soul, for this appears to
thee dreadful,—
Gainfuller course is thine among the host of
Achaia,
Robbing his prize from him who so shall
dare to oppose thee.
King, thy people's bane, and ruling men that
are worthless,
Otherwise, now Atrides, thou shouldest have
robbed for the last time !
But I will tell thee this, and great the oath
that I swear by,
By this sceptre staff, which bears not blossoms
or branches,
Ever again, since it left its parent stem on
the hill-side;
Nor shall it bloom once more, since the
steel, close-cutting around it,
Lopped both leaves and bark; but now the
sons of Achaia
Bear it a staff in their hands, who sit to
minister justly
Laws by Zeus ordained. By this great oath
do I swear it—
Yet shall Achaia's host feel deep regret for
Achilles—
All together, but thou, though grieved, shalt
not be availing
Then to help when before the sword of
slaughtering Hector,
Many and brave they fall—and thou within
shalt reproach thee,
Grieving that didest despite to the bravest son
of Achaia."
So Peleides spoke and smote the earth with
his sceptre,
Studded with stars of gold.

These extracts endeavour to give
a fair idea of the exceedingly dra-
matic passages in the First Book,
which account for the anger of
Achilles—the subject of the poem.
They are literal, aiming at the
conservation of the words, the
rhythm, the flow and spirit of the
original. It is contended that they
give a far fairer expression of that
original than the couplet of Pope, or
the *ten* syllable blank verse which
Cowper took from Milton, which

Lord Derby and Mr. Bryant have also chosen. All these metres are too short to hold the contents of the original Homeric line, which contains from *fifteen* to *seventeen* syllables. Besides this, the rhythm of the English line used by the translators aforesaid is a fixed quantity, that of the Homeric line an exceedingly variable and flexible one; only an identity of rhythm can follow its form. A second paper on this subject will give other extracts. Should such a book meet a publisher, should it avail itself of the wide field of resource for illustrating this early phase of art, culture, and religion, it would not, I think, be too much to hope that its popularized presentation of these studies would have great interest for the purely English reader, especially for those of both sexes engaged in the profession of teaching. These would, it is believed by the writer, be thus, at a very little cost of time, able to assimilate what is really the best outcome of a classical education. Is it too wildly enthusiastic a dream for the author of such a work to hope

that the Education Department would recognize its value as an educational instrument, that they would consider the scholarship and intellectual effort expended in its composition deserving of some of that pecuniary encouragement which it is their prerogative to give to the literature of education in this country? Perhaps so. But the reception of the writer's essay on "Virgil for the English Student," in the EDUCATIONAL MONTHLY for April, 1879, gives him abundant evidence of the interest taken by the teaching profession in the work he designs. Should some of these gentlemen be willing to aid in furthering the publication in question, on the understanding that the sales should repay those who do so, they will be so kind as to communicate with the writer, or with the Editor of this Magazine. It is hoped that those may be found who will not be ashamed to avow a generous sympathy with Canadian scholarship and Canadian literature, in filling a place not yet occupied by any English or American writer.

(To be continued.)

HERE I would urge the parents to stand stoutly to their ground as against examinations, to this extent: I would have them say, "Examine the schoolwork as much as you like, but let there be no special or exciting grinding for examination, nor in view of it prolonged hours of study. Let it represent a fair test of what has been quietly and fairly gained during the year or term." The system of putting young children—or even boys and girls under eighteen—through one test after another, all more or less competitive and exciting, from twelve or thirteen onwards, seems to me to be one from which much mischief cannot but ensue. Not, of course, to the strongest—they will, perhaps, go through the mill without injury—but to those to whom long-continued effort means strain and conscious fatigue. To these it must be in a high degree injurious. But not only do the physically least strong suffer—clever, precocious children are probably as a rule in still greater risk of being injured. Much of the difficulty of the question lies in the natural and permanent difference in individual powers—a

difference not less marked in children than in adults. Some children can work hard and long without harm; others cannot. A good many children want most of their nervous force for meeting the daily demands of growth and development, while others have large reserves of nerve force which really need to be employed. But, speaking broadly, these are the exceptions. It is wise to remember as a general rule that with children and adolescents generally we are not dealing with completed organisms from which all they can perform may safely be demanded without reserve, but with organisms still, as it were, engaged in the process of self-construction. The machine is not ready for use, because it is still itself in the workshop. What does it signify to a young man or woman that at eighteen or nineteen they know a little more of one or two subjects in comparison with the invaluable blessing of coming to mature life strong and vigorous, with a well-developed and well-balanced nervous system, and with the power of working hard without being the worse for it?—*Mrs. Garrett Anderson, M.D.*

HYGIENE IN OUR PUBLIC SCHOOLS.

BY GEORGE WRIGHT, M.A., M.D., EX-CHAIRMAN TORONTO PUBLIC SCHOOL BOARD.

THIS is a subject which has recently been attracting a large share of the attention of scientists and public educators, and whose importance is everywhere beginning to be more fully appreciated. There is reason for congratulation in this fact, for we have heretofore been seriously derelict in the matter of giving that prominence which the subject demands to the various details embraced in hygienic education. One is almost startled, on inquiry regarding what has been done towards imparting information on sanitary matters to the young, to find how much we are behind countries whose general civilization has not reached the point to which it has attained in this country. We may not, however, be so much surprised if we take into consideration the fact that Canada is still comparatively in its infancy, and that there have been so many questions with which it was absolutely necessary that we should deal, that anything not absolutely indispensable has thus far been left in abeyance. But it is gratifying to know that public sentiment is every day receiving additional enlightenment upon this great branch of sanitary education; and we may hope, ere long, to adopt such measures as will secure, in the most effectual way, proper hygienic instruction in our public schools.

In the minds of some there will be an impression adverse to the introduction of the subject into the system of instruction in our public schools.

Many are at present expressing the conviction that the mental energies of our children are being over-taxed. This may or may not be the case. In the hands of injudicious teachers such a possibility may arise as an over-strain upon the mental powers of the young. Judiciously directed, however, we have no cause for solicitude in our present curriculum. It ought, in our judgment, to be constantly kept in mind that the vast majority of the children trained at our public schools really complete their education in them. And it is creditable to those who framed our present system of education, that it is already so complete that the parent, knowing that he is not likely ever to be able to offer any higher educational advantages to his child than are to be found in the public school, need have no anxiety as to the thorough preparation he or she will there receive for the pursuit of all the ordinary avocations of life. Well, if this be the case, and so enormous a proportion of our children are being every year qualified for the responsibilities of after-life; if they are acquiring all the mental training of which they are capable during their connection with our public schools; are we exceeding our duty in endeavouring to render that training as complete as possible in all that relates to practical life? Certainly, the thought must commend itself to the calm judgment of every enlightened man that, in failing to offer such facilities to our children as

will more abundantly qualify them for meeting life's responsibilities, we are not completely discharging our duties as educators. We think that, on mature reflection, very few will be prepared to make the assertion, and defend it, that our public school system, although it has undergone vast improvement in the last twenty years, is not yet susceptible of advancement in some directions. The subject of hygiene has, thus far, been almost entirely neglected, and we have been sending our children out to commence the battle of life sadly unenlightened on questions which are to them of the greatest practical importance. There can be no doubt that many matters legitimately ranging themselves under the subject of hygiene are of infinitely greater value to our children than some of the subjects at present embraced in our public school course—although we are free to admit that there are few, if any, in our present curriculum the study of which is not improving. If it became a matter of choice, however, between the subject of hygiene and some of the other branches now embraced in the curriculum, there should be no hesitation in selecting that of hygiene as yielding altogether the most valuable practical results.

It may be asked, What is meant by instruction in hygiene? We answer, first, that our children's recreations, while at school, should be rational in their nature, and systematic in their distribution. There is little doubt that some forms of recreation are advocated, for our boys especially, which, to say the least, are of questionable value,—gymnastics, in many of their recognized forms, do not commend themselves as altogether healthful in their tendency, to say nothing of the positive danger associated with them. They are only safe for the expert, and even with the expert serious accidents are possible

at any time. What is known as high physical training is not only dangerous to the weak, but of questionable value to the strong.

Further, our children should be made to understand, as thoroughly as possible, the best way of preserving their health in the school-room. We are persuaded that, in this important particular, there is much need for systematic instruction. It may be said that the teacher should attend to this, but it must be apparent to any one that there are many matters which can best be attended to by the teacher, by giving careful instruction to the pupils.

There should be intelligent instruction imparted upon the various points coming under the head of clothing. The amount of absolute ignorance in society upon this subject is astounding. Even the more cultivated portion of the community is sadly astray upon many of the important details regarding dress, and our children are growing up in utter ignorance of how seriously they are imperilling their life and health. There is scarcely a young mother in a hundred who knows how to dress either herself or her infant child. The consequence is, that before she has acquired the knowledge necessary for the healthy growth of her children, one or two must needs be sacrificed out of every family. It is no exaggeration to say that thousands of children die every year from mothers not properly understanding how to clothe and feed them. A system of education, therefore, which does not provide for proper instruction in this matter is still imperfect. The maintenance by proper food of vigorous life and healthy growth should constitute another important feature in hygienic education. None but those daily brought face to face with the sad results of ignorance upon this

subject can form any conception of its importance. Badly nourished children are not alone to be found in the dwellings of the poor. Some of the most lamentable specimens are seen in the very lap of luxury, where no excuse can be advanced for ignorance. False notions about the proper forms of nourishment, the result in the main of faulty education, are here the source of the evil. Every girl in our public schools, as soon as she has reached a certain age, should be taught to cook properly, and to prepare the best kind of nourishment for young children. Above all things she should be instructed about those unwholesome kinds of food, both for adults and children, that are to be scrupulously avoided.

The great importance, also, of regularity of habit, for the preservation of health, as well as for the accomplishment of the greatest amount of labour in a life-time, should be impressed upon children. How many of us would have been thankful for such instruction during our school-days! We cannot escape the fact that habits are then acquired which leave their impress upon character in after-life; and hence, the almost infinite importance of having our education well directed, particularly as to the hours for rest, the hours for work, and the hours for recreation.

Many other questions in hygienic education suggest themselves; but there is one claiming serious attention which we must here notice. It is an appalling fact, coming within the cognizance of professional men every day, that many of our young people are being ruined beyond remedy by a secret vice, of the disastrous consequences of which the vast majority of them have not the most remote idea. We do not hesitate to say that, through a false delicacy, or an entirely mistaken notion of duty, many intelligent

teachers and highly-cultivated fathers and mothers are allowing children, growing up around them, to indulge in habits of self-abuse which will land many of them in hopeless idiocy. Is this right? Is any man doing *all* his duty by the child for whom he is responsible, by permitting it to grow up in utter ignorance of the consequences of a habit which is sure ultimately to lead to imbecility, if not to an absolute dethronement of reason? The uneducated man is not responsible for what he does not know; but as public educators it is our duty to supply his children with the information which will aid them in escaping the terrible consequences of habits which to their uninstructed minds appear to be entirely harmless.

It may be asked, How is all this additional information to be overtaken by the children in our public schools? If your curriculum is already burdensome, you should not aggravate the evil by the addition of another extensive subject. In answer, we say, if the curriculum is already too extensive, either dispense with some of the less practical subjects altogether, or make them optional with the pupils. But by all means let there be a systematic course of instruction in hygiene provided as speedily as possible. Let it be confined to the more advanced classes, say to the two highest of our boys and girls. If books upon the subject are placed in the hands of the children at all, they should be suited to their comprehension. We think, however, that, if a good work upon hygiene, as free as possible from technicalities, were placed in the hands of teachers, they would be able to gather from it sufficient to enable them to communicate a valuable amount of information to their pupils, and so cover all the important aims of hygienic education.

READINGS FROM AN OLD MYTHOLOGY.

BY FRANCIS RYE, BARRIE.

THE interesting paper by Mr. Boyle, in the last number of the EDUCATIONAL MONTHLY, on Hubner's Geography, may, I think, furnish the hint for some similar articles, which will not be unwelcome to such members of the profession of teaching as find pleasure in turning back to its past history. Most libraries contain in some retired corner a motley collection of old school books, preserved, in spite of damaged covers, dog's-eared pages, and antiquated contents, by the magic associations which they derive from the name of some dear father or elder brother, inscribed, in scrawling school-boy flourishes, on the cover or title page. Some (although the art of iron-back-binding was not then invented) bear the impressions, signatures, and thumb-nail scorings of more than one generation, and among these the book lover will occasionally light upon one sufficiently old, as in the case of Hubner, to make its archaisms and its errors of interest, as indicating what was then the highwater mark of educational science.

Hubner's Geography is well known to me, and I had a copy in my possession till quite recently. In fact I did not know of its disappearance until I went to my shelves to hunt it up and collate it with Mr. Boyle's extracts, as I was not sure if mine was the same edition as the one he cites from. The "compleat set of maps" it contained are vividly in my mind's eye, and I can recall my childish

feeling of astonishment at the map of North America, from which it appeared that Mr. Cowley, Geographer Royal, thought that the peninsula of California was an island!

Besides this glaring instance of what, with the natural priggishness of immature knowledge, I chose to consider incompetency, there were defects in proportion, making this excrescence of land appear dropsically bulky, and the other absurdly lanky and attenuated, which gave the book a great fascination in my eyes. The maps seemed to form a link between the prosaic atlas of modern days and those delightfully romantic sketches, compiled from Herodotus, Ptolemy and Pliny, which represented the ancient notions of our globe with its encircling river, Oceanus.

But, leaving Hubner, let me introduce to you another old text book. It has the advantage in age over the Geography, as the title page testifies, of some quarter of a century; but, on the other hand, the subject is one of a more stationary character, and the assertions it contains have run less risk of being shaken by modern research. I give the title page, slightly shortened.

"The PANTHEON, representing the fabulous histories of the Heathen Gods and most Illustrious HEROES in a Short, Plain, and Familiar Method, by way of Dialogue. Illustrated and adorned with elegant Copper Cutts.

. . . Written by Fra. Pomey, of the Society of *Jesús*, Author of the

French and Latin Dictionary; for the Use of the DAUPHIN. The Seventh Edition. for the use of Schools. By ANDREW TOOKE, A.M. London: Printed for J. WALTHOE in the *Temple-Cloysters*. 1717."

The frontispiece is a view of the Pantheon at Rome, drawn in the most villainous perspective, after which we come to the Editor's epistle "To the Reader." He begins by admitting that there are many works on the subject already, some might think enough. He dismisses this satisfied "some" as "few and unexperienc'd," and naturally prefers the "advice of many grave Persons of known Skill in the art of teaching; who, tho' they must acknowledge that Godwin, in his *Antiquities*, has done very well indeed on the Whole, yet can't but own that he has been too short in this point: that Rosse,"

. . . in brief that Rosse is as tedious as Godwin is brief, and that Gattruchius "as D'Assigny has translated and dish'd him out to us" is confused and badly corrected. For all of which good reasons, and also, we may presume, because six editions had already been sold, Mr. Tooke of the Charter-house boldly puts forth this new edition and points to its "compleat and significant Index" and other improvements, with a just pride.

The interlocutors in the Dialogue are "Palæophilus," the pupil, and "Mystagogus," the preceptor, and the scholar commences by giving a dig (quite unintended by the Author, one may be sure) at the drawing of the frontispiece.

"P. What sort of Building is that before us, of so unusual a figure? For I think it is round, unless the Distance deceives my sight.

"M. You are not deceiv'd . . . Let us go and view it."

Mystagogus then proceeds to en-

lighten his pupil on the causes of idolatry, puts his finger on the Gate of its commencement, the last year of Noah's life, and identifies Jove with Belus the founder of Babylon.

At the end of the chapter they are at the door, and the next introduces them within the temple, the pupil exclaiming "Good God, what a crowd of *dead Deities* is here!" to which the master, with the complacency of one who is past being astonished, replies by assuring him that "this is the smallest part of them." He volunteers a description of these Deities, adding with vast modesty, "if at least my Talkativeness is tolerable to you." Of course the scholar answers "Sir, you jest when you call it Talkativeness. Can any discourse be more pleasant to me?" It is quite clear that if he had not said so, Mystagogus would have been terribly put out, would probably have essayed to birch Palæophilus then and there, and thus have afforded the attentive gods an opportunity of enjoying their favourite spectacle, a good man struggling with adversity, in the shape of a recalcitrant pupil. I have often wished, in reading the innumerable books cast in the form of question and answer, that the child had been allowed to reply in some other and more natural way than the mealy-mouthed manner you invariably find there. I suppose the writers desired to inculcate submission and good manners, but it has a diabolical effect when you come across a passage such as this: "Now, Charles, you have listened very attentively to me for six hours without so much as asking permission to absent yourself for the purposes of prandial refreshment. Shall we desist? or would you prefer me to finish the second part of the history of the Babylonian Empire?"

Charles is sure to reply that although under other circumstances he should feel tired and hungry; yet the

dearest wish of his heart at that moment is to hear the second part finished. I should have much pleasure in seeing a dialogue school book of this sort, written from the scholar's point of view.

To return to our mythology. Mystagogus takes all the gods in turn, commencing with Jove, who, we are told, wears "Golden Shoes and an embroidered Cloak," and may be seen sometimes with no ears at all, and sometimes (I suppose to keep up the average) with four ears. Next comes Apollo, and in this instance the pupil seeks to cover up his first mistake by shamefully praising the figure of that deity. Who, says he, is that "beardless Youth with so long Hair, so comely and graceful, who wears a Laurel Crown," etc. I wish I could transfer the "elegant Copper Cutt" in question to the pages of the EDUCATIONAL MONTHLY. The countenance of the "comely youth" resembles that of Mr. Micawber in the illustrations to David Copperfield, and bears an innocently vacuous look as though he were slightly deaf, and *thought* you had said something at which he ought to smile, but was not quite sure. As for the "long Hair," he is as bald as a barber's block, and evidently took to the laurel crown, as Cæsar did, to prevent people spying out the nakedness of the land. On the whole, I must give Palæophilus the benefit of the doubt and charitably believe he was covertly poking fun at the picture; although Mystagogus, good, easy soul, has no notion that there is anything amiss with it. "Who," asks the scholar, "is that young Man with a chearful Countenance, an honest Look, and lively Eyes, who is so fair without Paint; having Wings fixed to his Hat and his Shoes, and a Rod in his Hand?" We may still suspect Palæophilus of some covert satire in singling out the arrant thief, Mercury, for a man with

an ingenuous countenance,—but what I would draw attention to in the above passage is the extreme homeliness of the expressions used. Mercury is "a young Man," his winged sandals "shoos," and his head is decked with a prosaic "hat." This simplicity reminds us of the English employed in our Authorized Version of the Bible, when Shadrach, Meshach and Abednego are "bound in their coats, their hosen, and their hats," and thrown into the fiery furnace. There is no doubt that this fashion of using familiar words at the expense of delicate shades of meaning, operated on the mind of the people to bring the scenes of Holy Writ definitely and vividly before them. The Puritan could fancy himself one of the Three, dressed like them in decent apparel of his own days;—he would only have been perplexed and estranged had the marginal reading "turbans" crept into the text in place of "hats." The same tendency was fostered by the German and Dutch style of Art, which exhibited its Jewish priests, Roman legionaries and Eastern women in the attire of the passing age. In several pictures we can still see unmistakable hats, the progenitors of the modern "chimney-pot" or "plug," high in crown and stiff in brim. It appears notably in a very fine and large engraving, in my possession, of the "Circumcision," by Goltzius, dated 1524, where it ornaments the head of a common spectator in the background,—the ceremony being performed in a lofty and magnificent Gothic Cathedral. Not to multiply instances, we find the same beaver hat on a man who is represented as lowering the dead Christ into the grave, in the fine Triptych of Limoges enamel at the South Kensington Museum, by Pierre Raymond, of date 1543.

Enough for the present of Hats. I will pass over Bacchus, at whom

the pupil laughs as a "filthy, shameless, immodest God . . . whose swollen Cheeks resemble Bottles," and will merely notice that Mystagogus has the usual turn for fanciful derivations which distinguishes the scholars of his time. The many names of Bacchus afford him a fine field, and he avails himself of it to an unlimited extent. Nothing seems to stagger him, and he goes on with his wild derivations, although quoting the very reasonable proposition of Servius, that the meaning of a Greek name ought not to be sought for in a Latin Word. Not content with this, our pedagogue makes out a fair case for the identity of Bacchus with—Moses, or, if you prefer it, Nimrod.

Under this same head, for I find I was a little premature in saying that I would pass over Bacchus, we are given a discourse upon the moral sense of the fable which would raise mingled emotions in the minds of our Total Abstiners. They would feel inclined to throw the book away when they found it ask, "What cherishes the Heart of Man so much as Wine? What more delightfully refreshes the Spirits of the Mind, than that natural *Nectar*, that *divine Medicin*, which, when we have taken, our Grievances are pacified, our Sorrows abated, and nothing but Cheerfulness appears in our Countenance." But if they only turn the page they will find Mystagogus calling wine the "Grave of Reason," and surely this picture of a drunken man is couched in their own peculiar style. "It draws the *Sparkles* and *little Stars* from their Eyes. Then the Body being drown'd in Drink, the Mind floats, or else is stranded . . . O Beast! See how his Head totters, his Hams sink, his Feet fail, his Hands tremble, his Mouth froths, his Cheeks are flabby, his Words are unintelligible, his Tongue falters and stops, his Throat sends forth . . .," but enough

of this. Even Mystagogus reins himself up shortly and ends the chapter thus: "But what do I do? It is not my Business now to tell Truths but Fables."

Apparently Palæophilus also thinks that his tutor has gone too far in the moralizing vein, for he opens the next chapter with the critical remark: "As far as I see, we must tarry in this place all Night." Which is not unnatural, seeing how few of the gods they have yet disposed of. But Mystagogus reassures him. The other gods are not to be honoured with so much attention, and Mars, next on the list, is to be cut short, a promise which he keeps pretty well. From the chief Gods they pass on to the Goddesses, and the Teacher expatiates so much upon Venus, that his scholar (not relishing the idea of sleeping all night in such a company) again gives him a hint in favour of expedition: "How far, I prithee, will the Fervour and the flowing tide of your Wit and Fancy carry you?" Mystagogus, who must, with all his long-windedness, have felt a little exhausted by this time, admits the soft impeachment and commends the pupil for stopping him. In a few pages more the master succumbs altogether, and the pair leave for dinner in the most amicable manner.

Part II. treats of the Inferior, or Terrestrial, Deities, and can be dismissed more cursorily. We gladly note that the pupil owns at once that he has had a good meal, and makes honourable amends for his late crustiness by promising to attend better in future. Saturn, the first on the list, is identified easily with Noah, one proof (which, unfortunately, like much in this mythology, I cannot possibly quote), only depending upon the "altering of one or two vowels" in the Hebrew word! Skipping Vulcan, Cybele, and a number of others, we come under the head of Ceres to a

notice of Erisichthon, which would almost lead us to suppose Mystagogus was of Irish extraction. It appears that this unhappy individual (of whom I, for one, must plead ignorance hitherto) was afflicted with perpetual hunger, to assuage which he gnawed his own flesh, and thus brought "upon himself an horrible Death, *the better to sustain his Life!*"

The third part contains the Gods of the Sea, and is very short, our interlocutors hurrying on to Part IV. and the Infernal Regions. The "elegant Copper Cutts" have their resources taxed to the utmost in order to represent with due hideousness the harpies, furies, Typhon and Cerberus. The Fates are described as "three old Ladies," in much the same way as Flora in the preceding part was called "a famous Miss." Hastening on to the close, we find Part V. devoted to the *Dii Minorum Gentium*, or Subordinate Deities, which need not detain us. They make up in numbers what they lack in dignity, and appear to be fully aware of the advantages of a division of labour, seeing that no less than three Household Gods, Forculus, Cardua, and Limentius, have nothing to do but to look after the house door between them.

Part VI., and last, sums up the

Demi-Gods and Heroes, a few of whom, however, had been mentioned from time to time before as occasion offered. It is needless to say that pupil and master part company with a mutual flourish of congratulations.

* * * * *

So far, the curious old mythology, now a little battered and damaged by time, and wanting half its index, which issued spick and span from the "Temple Cloysters" in the beginning of the last Century. I am unable to trace its successive boy-owners since that day, the only old name it bears being a little enigmatical. On the inner cover, in a clear old-fashioned writing, the ink browned with age, are these words: "Master Kyllijincle Wood, wrote by me, Watt Bermingham." As "Kyllijincle" is unknown to fame as a Christian name, I can only suppose that waggish "Master Bermingham" has perpetuated here some school nick-name, of no very flattering nature, by which "Master Wood," the owner of the book, was known. The point is not much in need of elucidation, as Bermingham, "Kyllijincle" and the master who probably boxed their ears on the occasion of the name being written, must be all long since dead. *Vale*, good Master Kyllijincle.

HORACE, ODE I., XI.

NAV, love! seek not to know that which the gods, hiding from me, from thee
Term of life have assigned, Leuconoë, this thou shalt not foresee,—
Better were it to bear evil or good, all that the fates ordain,
Be this tempest the last, or if the storm Jupiter sends again,—
Storm that frets with its foam rocks that oppose ever the Tuscan wave.
Be thou wise, and the wine pour for my lips,—hope not against the grave;
Hope not! even as we speak envious Time fleets on his wings away,—
Now the Present enjoy, and if you can, trust not the Future day.

THE LITERATURE OF EDUCATION IN CANADA.*

BY AN OLD HEAD-MASTER.

(From the "Canadian Monthly.")

THE success which has attended the first volume of this serial (the CANADA EDUCATIONAL MONTHLY) is a good omen for the future of that system of public education in Canada whose growth during the last half century has won deserved praise in England and the States, and is a factor of such vast importance in the development of this country's nationality. For it is not too much to say that the Public School of the backwoods country section is the unit of our political system. Election of School Trustees, the working of the School Law, and the Section School, is the first lesson learned by our outlying population; a political lesson the more valuable because it is essentially national, not partizan. The handsome volume before us has literary interest in abundance, as we hope to shew by a detailed account of its contents. Its reviews of the best current literature, which are not mere "book notices," are thoughtful, fresh and sensible, and would of themselves make the EDUCATIONAL MONTHLY a help to all who are ambitious of the higher culture. But its special utility consists in its independence. It is independent of the Education Department—so much so that, as we shall have occasion to point out, it has dealt out a trenchant criticism, the more telling because of its self-restrained force and courtesy

of expression. An independent criticism of the Department has become necessary since the growing magnitude of the School System has made it—in Ontario as a fact, in the other Provinces virtually—a branch of our government. For many years a School Journal, the organ of the Education Department, and supported by a grant, was sent through the country gratuitously. It did good service, both with the profession and the public, whose gratitude its able conductor, Dr. Hodgins, merits. But, although as a rule fair to the interests of the people and faithful to the public teacher, its time passed with that of the Chief of the Department, the patriarch whose personal government it represented. For a short time, too short it will probably seem to those who study the history of education in this Province during the last ten years, the interests of the public, the best culture and wisdom of the educated class in Ontario, were represented by the Council of Education, which acted as a check on the bureaucratic element of the Department. This Council was composed in part of such men as Professor Daniel Wilson, Mr. Goldwin Smith, the late Professor Ambery, as representatives of the High and Public Schools and other educational interests. In the midst of a career of unexampled benefit to the public service, this Council was suddenly suspended at a crisis when ministerial weakness yielded to a per-

* "The Canada Educational Monthly," January to December, 1879. Vol. I. Toronto. The Canada Educational Monthly Publishing Company.

sonal jealousy, armed with the threat of political influence at a general election! The new Council which virtually succeeded it, the present Central Committee, was of very different composition. It was, and is, almost altogether composed of the school inspectors; there was no more to be any representation either of the teaching profession or of the public literature of the country. The Central Committee is composed of men who *had already other functions to perform*—those of inspection. To these they were to add those of executive government. John Hunter, the Physiologist, remarks that if an organ is called on to perform a two-fold function it becomes *less efficient in either direction*—thus the foot of a water-fowl is not very effective either for walking or swimming. The function of inspecting schools was not unlikely to be interfered with by that of choosing, or advising the choice of, textbooks; a matter in which the money interests involved, and the temptations held out by not too scrupulous publishers, might lead to scandals disgraceful to the Department and disastrous to the teacher and the people. It was evident that a wholly independent organ of educational criticism was needed, not less so in the other Provinces. It was also desirable that the educational organ, while it fully represented the teaching profession, should be independent of mere professional technicality, and of the narrow and sometimes acrimonious spirit with which the technical interest tends to regard public questions. The latter should be looked at also from the point of view of the general public interested in education. And this independent position towards the Department, the profession and the public we find to have been well sustained by the new EDUCATIONAL MONTHLY. It has treated the Department with impartial moderation; its pages abound

with essays, some on professional, some on literary and philosophical topics, by the leading minds among our teachers; it forms a means of intercommunication for the ablest of them, while its columns are closed against the fault-finding of the lower class found in this and in every other profession. The editorial department, besides a series of essays on school questions of immediate importance, contains a valuable selection bearing on school work, from the best foreign sources, and original articles on new books, which are a marked feature in this able review. As instances of the excellence of these articles, original and thoroughly adapted to Canadian conditions, we would refer to the review of Matthew Arnold's "Johnson's Six Lives," in the March number; to that of the "Literature Primers," which follows it; to "English Men of Letters," in the April number, and to the unpedantic scholarship of such articles, to take one among many, as that on Harper's "Andrew's Latin Dictionary," in the November number.

It may best fulfil the motive of this article, which is to shew fully the kind of work that is being done in the CANADA EDUCATIONAL MONTHLY, if a short account is given of the contents of this, the first, volume. When the same topic is treated by two writers in the course of the volume, they will be considered together. The Editor's articles on educational questions of immediate importance will be reserved for separate review.

The January number opens with "University Consolidation," by "Alpha." This article is ably and temperately written; it chiefly refers to Ontario, where there are no less than six denominational colleges to the one non-denominational university. "Alpha" urges the evil, likely to increase, of multiplied degrees deteriorating the educational currency, as in the States.

Of the existence of this danger there can be no doubt. The remedy "Alpha" proposes is for the University to abnegate its teaching functions, and become an examining body, the other colleges to resign their powers of examining for degrees. But is it not written that the cedar refused to descend from Lebanon and become king over the brambles? And might not more be lost than gained if the University were to abnegate its "teaching functions?" A more thoughtful view of the same question is given in the December number, by John Millar, B.A., St. Thomas, who goes to the root of the matter, by shewing that separate denominational colleges are absurd in denominations that do not claim separate schools, and their being allowed to grant degrees by the State is to the highest degree a mischievous and unconstitutional anomaly, inconsistent with the duty of the State as the guardian of public education. But public opinion, though advancing in this direction, has not reached it; meantime, perhaps, a central degree examining body for each Province, or for the whole Dominion, might at least equalize the value of degrees, and by competition secure the non-survival of the unfittest.

The vexed question of the "Effect of Examinations on School Culture," is started by A. Purslow, B.A., of Port Hope. He shews the evil effects of the "Examination Mania" in England, and in clear and forcible language traces the result on the system of "cramming," on which the Goffin examination frauds in England have afforded such a comment. The same ground is taken in "Departmental Reports and the Intermediate Examination, by a Head Master," a temperate and suggestive paper; also in "Payment by Results, by the Rev. G. Bruce, B.A., St. Catharines." In all these papers, while the benefit of

examinations as a means of testing knowledge acquired is admitted, the system so dear to the bureaucratic mind, so doubly dear to a bureaucratic inspectorate, is condemned as noxious to true education, and the same conclusion is endorsed by all utterances of the teaching profession, in essays, letters, and resolutions of teachers' associations throughout this volume. There certainly seems to be good ground for complaint, which is illustrated by two cases, in which Head Masters lose their position, merely because pupils fail to pass the Intermediate Examination.

What is to be said for the examination system as a necessary though imperfect test, is well said by J. E. Wells, Principal of the Canadian Literary Institute, Woodstock.

A series of essays by Dr. Mills, of Hamilton, on "School Hygiene," "Exertion and Over-exertion," "Lungs as they concern Education," "The Eye," are clearly written, and ought to be read by all school trustees and parents.

A somewhat technical, but thoughtful and well-written, essay, by J. Seath, B.A., St. Catharines, shews how the number of first-class teachers could be increased. He advocates the separation of the professional course for first class and for second class teachers. Mr. Seath's proposal would seem to be likely to improve both the professional and non-professional instruction by division of labour between the Normal and High Schools.

Next is a clear exposition, by A. W. Gundry, of Toronto, of Herbert Spencer's application of the evolution philosophy to education. Spencer's system is attracting increased attention among thinking men; it seems to have an almost universal range, practical as well as speculative. Some of the issues raised are also discussed by Mr. Wells. "A Biologist" supports Spencer's view in advocating in-

creased teaching of science in public schools.

The Editor's article on "School Manuals" will be separately reviewed.

In the February number, besides the Editor's article on Culture, is a second article by Mr. Gundry, on "First Principles of Education, Intellectual and Moral," more especially on the subject of morality. Mr. Gundry gives admirable advice. Surely such a paper would do good, could it be circulated among parents and trustees, who are too little apt, in many cases, to think of points of abstract duty in connection with school life. J. H. Smith, School Inspector of Ancaster, condemns the present sessions in County Model Schools as too short.

Two of the best essays on the subject of teaching, pure and simple, are those by Mr. McAllister, on "The Aims of our Public School System," and by Mr. Wells, in the essay entitled "Cui Bono?" In the former, a claim is put forward for the enlarged scope of Public School work—at least beyond the three R's—for adequate training in history and geography, natural science, and physiology. To the same purport is the eloquent paper by Prof. Wells. But under the present *regime* of over-examination and cram, how are we to get third class teachers capable of teaching either, except in the most perfunctory manner? During a considerable experience of the county schools of Eastern Ontario, the present writer has very rarely met a third class teacher who had an intelligent knowledge of English history. The only instance in which he remembers Physiology being attempted at one of the country schools, usually supplied by teachers of this grade, was one in which the pupils never seemed to advance beyond one lesson, or grasp more than one fact, *i.e.*, *the number of bones in the human body*. With this their "study of physiology" began and ended.

Space does not allow the consideration of all the essays whose interest and genuine unaffected literary merit deserve mention. Remarkable among others, it need hardly be said, is that by Mr. W. D. LeSueur, of Ottawa, one of Canada's best known writers and clearest philosophical thinkers. An essay on "Buckle's Theory of History," by Mr. Francis Rye, of Barrie, is a most interesting *résumé* of the principles on which was written the fragment which, alas! is all we possess of the work projected by that illustrious man of letters. Principal Grant and President Nelles contribute two thoughtful papers well deserving the attention of all interested in education. Mr. Goldwin Smith's article on English Universities, represents a perfection of literary style which our teachers cannot study too accurately. Such essays not only embellish the EDUCATIONAL MONTHLY—they give it a title to the support of all who share the interest now becoming so general in the more thoughtful phases of literature. The Mathematical Department, under Mr. MacMurchy, also displays high merit for accuracy, clearness, and practical utility to teachers. The High School and Public School Departments are also admirable features of this magazine. The editorial articles are chiefly on practical questions concerning the regulation of text-books, of course a matter in itself of primary importance to the teacher, the children, and the parents, as also the expenditure and general action of the Department. Before considering the editorials on these most pressing questions, attention may be directed to an essay on "The Promotion of Culture," in this country. "Even in the rural districts, except perhaps in the case of the settlers in the remote townships of the Province, and among the Indians, the demands upon education are ambitious ones. With no benighted labouring class in Canada, corres-

ponding to the Hodge of the motherland, education has not to waste time upon uncouth or unpromising material. Hence, there is not the necessity to lower the plane of our primary education to the depth of his midnight ignorance. This advantage in our favour, we begin our educational work at a higher pitch, though the height we reach at the finish should be correspondingly elevated, and the results looked for those that mark the fulfilment of a great expectation." "But to a great extent, we fear, the work done is machine work, marked with the materialism of routine and the inelasticity of mechanism. The work of course is turned out; but it is done too much in the temper of uniformity and in the methods of a lifeless system. We have the body of educational work without its energizing and liberalizing life—the form but not the fruit." That this forcibly written passage is only too faithful to fact, is shewn by the whole working of the Department of Education, ever since the present Central Committee replaced a Council which was too honest, too effective, and too loyal to the interests of the school-teaching profession, to suit the bureaucrat of the hour. What this article in the EDUCATIONAL MONTHLY says about the inelasticity and want of vital force in the Education Department under the practical rule of its Committee of School Inspectors, is, most unhappily for the interest of education and educators, only too deplorably true! While the teachers are practically coerced by the influence of an inspector who is also supreme, or believed to be so, at the Department, to force illegal text-books into use in the Schools, the teacher's moral sense and self-respect are injured. While base piracies of foreign school manuals are thrust on the public, with a cynical contempt for law, and a perseverance worthy of professional book agents,

the whole tone of the Education Department is fatally lowered. In fact the Department does precisely "the things it ought not to have done, it leaves undone the things that it ought to have done, and there is no health in it." It fails in its duty to the teaching profession whom it subjects to the tender mercies of trustees by making their status dependent on the capacity of pupils *who may vary from year to year in every condition that goes to make success possible!* It fails in its duty to the public, having introduced and formulated a system of examinations, cram, and puffing, which goes far to make education in any true sense of the word impossible, as far as the system has its way. Those at the head of this state of things shew, among other characteristics of the Philistine nature, a wonderful lack of humour which harmonizes well with the pervading woodenness of the Department. They do not seem to perceive the curious specimens of bad English which come so malapropos from the heads of an Education Department, they fail to realize that outside observers can see anything absurd in productions worthy of Mr. Pecksniff, or to the economy of the Departmental expenditure and the impartiality with which political considerations are excluded, when everybody who knows the facts of the case perceives what economy there is in a school expenditure, which, while the number of scholars in Ontario has increased by *one-fourth* in the decade, has *doubled the expenditure!* And as to politics, what other influence stifled inquiry as to examination frauds, gross as in the English Goffin case, that enabled a ring in the book trade to make their friends in the irresponsible Central Committee force manuals worthy of Mrs. Malaprop on our schools?

Those who have watched the course

of events at the University will also endorse what is said as to the lack of creative force in the teaching in that institution of late years. "The cold temperament too largely prevails." New blood is indeed needed. A teacher who possesses magnetism to attract and win the students, one intellectually capable of inspiring his own enthusiasm, a speaker and thinker, able to sway and impress—what a gain would not this be? But as St. Augustine said "*unde autem?*" How is such a man to be got? The present conditions of routine make his exclusion certain. If we may hazard a suggestion, might not permission to lecture, say twice, on one of the various courses of study be granted to those whose names were approved of, by such public men as Mr. Goldwin Smith or some of the most noted of our *litterateurs*. If such a chance were afforded to the really competent teacher, the students and the University would soon perceive who had the power of lecturing and impressing others.

We are sorry to agree with what is said of the lack of influence of the learned professions on the national culture with the exception, perhaps, of the bar. The clerical profession, at least in the Episcopal Church, has lost the semi-aristocratic position which in England allies it to some extent with the more superficial aspects of culture. In England scholarship is not looked on with disfavour by bishops; the clergy fill a respectable if not at all a foremost place as a literary force. Here the clergy form a caste, a priesthood, afraid to speak out on questions upon which the thinking public has long ago made up its mind; having lost social prestige, they seek ecclesiastical supremacy or take refuge in reactionary dogma from modern thought. As a whole, one is inclined to look on the teaching profession, certainly, as represented by

the essays in the volume under review, as the best influence for culture this country possesses.

In the remaining editorial articles the shortcomings of the Education Department are clearly and vigorously dealt with. In "The Department and the School Bill," it traces the decadence that set in when the competent and responsible Council of Education, in which the teaching profession and the public were both represented, was replaced by the irresponsible and inefficient Central Committee. "The abrogation of a Council composed of men of the character, ability, and impartiality of the men who were doing such herculean work for education at the time of its abolition makes the educational critic severe in his demands upon the men who replaced the Council and upon the machinery that attempted to continue its work."

The most unsatisfactory point with regard to those men and that machinery is "the non-representation in the Central Committee of Public and High School Masters; an element which most fairly and desirably had its representation in the latter days, at least, of the old Council." We hope that the teaching profession will not lose sight of this important point; the force of public opinion represented by that profession is one which must make itself heard. Let it assert itself, let it claim its just rights, not of being represented by members of its own body which would give rise to jealousy, suspicion, and the same evils that prevail under the present constitution of the Committee, but let the teachers elect as their representatives men whose character and literary position give unquestionable guarantee of integrity and ability, and who, standing apart from political influence, as a Minister of Education cannot do, will have the inestimable advantage of also representing the

public. For remember, as things are at present, the public has no representation. There is a Minister of Education, who personally, no doubt, deserves all the credit for good intentions given to him by the editor of the EDUCATIONAL MONTHLY, but who represents a party, and cannot afford to quarrel in the public interest with members of the Central Committee who have party claims or political interest—a Minister who is a lawyer, and cannot in his own professional interest give anything like adequate study to the working of the Educational System. That all this is not mere theory will presently be seen in Mr. Crooks' dealing with the School Manual Question.

As a proof of the way in which public interests are neglected by a Department which "doth protest too much" of its regard for economy, we find that, on the authority of the Blue Book, for 1877, "the Central Committee cost the country about \$10,000, inclusive of fees as examiners, rewards for reporting upon text and prize books, for travelling expenses, and the inevitable disbursement for contingencies. This is exclusive of the salaries paid to those of the Central Committee who are Public School Inspectors, by the city and municipal corporations employing them, and it is also exclusive of the salaries drawn by those High School Inspectors who no doubt, deservedly enough, divide some \$9,000 among them."

Besides the glaring extravagance of such waste of public money; besides the gross abuse of a Department playing at being a bookseller, and the official perquisites connected with that abuse; the Central Committee, like all close corporations, has supported its members in every dereliction of duty. As one instance of this let our readers recall the grave charges of Examination fraud which came up for trial two years ago. A similar fraud

was perpetrated, as we said, in England about the same time by one Goffin: investigation and prompt punishment in that case followed on the first suspicion of a crime which no political party in England would have lent itself to screen. Political morality here is unfortunately not so sensitive. About the time when the abortive investigation into the examination frauds took place, the Minister of Education happened to visit a great public institution. It was remarked to him by one of the officers of that institution that a new professor's chair was needed by the requirements of the age. "What chair?" said the Minister, ever anxious for information in his Department. "White-washing," was the reply, "and the judge who tried the Examination frauds question would be the most eligible candidate." Despotism may have been sometimes tempered by an epigram, but the Education Department, as we have said, seems to lack the sense of humour, and would probably not see the point.

In fact, the teaching profession have a most pressing interest in getting rid of the Central Committee of School Inspectors, which nominally "advises," but in fact directs the Department. The teachers are over-inspected and over-governed. The inspectors have a quite disproportionate power over the teacher. The teacher is, in fact, at the mercy of an inspector certain to be backed up by a Department inspired by his own *confrères*, a letter from whom, however unjust, would have instant effect with a board of trustees incapable of judging the case on its merits, and impressed with the usual vulgar reverence for Officialism. Were the former Council of Education, composed of reliable and competent men, to replace the present rule of the inspectorate, the inspector and the teacher would resume their relative

position, and it is more than probable that the present Chinese system of Examination on the brain would disappear, and the mischievous plan of "payment by results" follow it into limbo.

A capital instance of the working of the present corrupt and inefficient system is illustrated in the editorial in the April number on *School Book Editing and Authorship*. It sets forth, on indubitable proof, "the existence of a favoured house in the book trade whose books are approved by the Central Committee," and "the intimate connection between the Central Committee and the publishing house referred to." The editorial goes on to expose "the intimate relations of the House of which we have been writing, with the senior Inspector of the Department whose books the firm has published, and which, despite the fact that they have no official authorization, have been industriously circulated in the schools of the Province, contrary to the edicts of the Department which forbid the use of all unauthorized books. The gross impropriety of Dr. McLellan's (the senior Inspector in question) pecuniary interest in these books, while holding his official position, is a circumstance which cannot too strongly be reprobated, and the perambulatory advertisement by the author of the book in question, only adds to the indecorous character of the connection."

Of these books, illegally admitted into schools by an author who, like Mrs. Malaprop's Cerberus, manages to be "three gentlemen at once," Central Committee-man who controls the Department, inspector who controls the High Schools, and book agent, it is curious to see how very badly the "authorship" is managed. This illustrates what we said as to the lack of sense of humour in the Department. These books, a crucial example of which is an eminent

inspector's work on Mental Arithmetic, and Miller's Swinton's Language Lessons, the latter of which is manufactured by the simple process of altering a sentence here and there, "the sword of the general" in place of "the bonnet of Mary," in the original book, and by such impudent devices as placing the "editor's name" on the title page, or appending the *Canadian date* "Ottawa, March, 1878," at the end of the preface written by the American author. That the Minister of Education should allow an illegal circulation of worthless compilations amounting, as the publishers' circulars shew, to thousands of copies in inconceivably short periods, is a public question, on which Mr. Crooks will shortly find public opinion express itself more loudly than he expects; but that these book-peddling inspectors should be allowed thus to disgrace Canadian literature concerns the *clientèle* of this review. We have endeavoured, through evil report and good report, to uphold the cause of that literature. We protest against being associated in any way with the proceedings of "adapters" of other people's writings, whose process of editing resembles nothing so much as the process called "denasation," formerly practised by the lower class of tramps, who, by splitting the nose and otherwise defacing children, so changed them for the worse that their own parents could not recognize their offspring.

In the interest of both education and literature, we wish success to the EDUCATIONAL MONTHLY. It deserves the support of all the profession, to whose body it does honour by calling forth such essays as that on "Buckle," and the able and scholarly classical reviews in this volume. So long as the unauthorized school-manual-abuse continues unabated, in defiance of the Department's own edict, a scandalous and most immoral condition of

things like what our forefathers denounced under the name of "unlaw;" so long as the teaching interest is unrepresented in the Council that virtually governs; so long such a review as the EDUCATIONAL MONTHLY is the best resource for redress. The most hopeless feature of the case hitherto has been a want of public interest

in educational questions. This the friends of education have it in their power to remedy to a great and increasing extent, by promoting the circulation of the EDUCATIONAL MONTHLY, and by writing themselves and endeavouring to interest others in the important questions discussed in its columns.

ARTS DEPARTMENT.

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

1

SOLUTIONS.

BY THE PROPOSERS.

$$\left. \begin{aligned} 56. \text{ Solve } x + y + z &= 41 & (1) \\ x^2 + y^2 + z^2 &= 49 & (2) \\ yz &= 3x(y-z) & (3) \end{aligned} \right\}$$

Subtract (2) from the square of (1), and divide by 2:

$$xy + yz + zx = 36.$$

Hence, and from (3) $\frac{36 - xz}{x+z} = y = \frac{3xz}{3x+z}$.

Substituting these values of y successively in (1),

$$3x^2 + 7xz + z^2 = 11(3x+z) \quad (4)$$

$$x^2 + xz + z^2 = 11(x+z) - 36 \quad (5)$$

Multiply (5) by 3 and subtract from (4);

$$\text{hence } 4xz - 2z^2 = -22z + 108$$

$$\therefore x = \frac{z^2 - 11z + 54}{2z}$$

$$x+z = \frac{3z^2 - 11z + 54}{2z}, \quad xz = \frac{z^2 - 11z + 54}{z}.$$

Substituting in $(x+z)^2 - 11(x+z) = xz - 36$.

$$\left(\frac{3z^2 - 11z + 54}{2z} \right)^2 - 11 \left(\frac{3z^2 - 11z + 54}{2z} \right) = \frac{z^2 - 11z - 18}{2};$$

$$\therefore \frac{3(3z^2 - 11z + 54)}{2z^2} = \frac{z^2 - 11z - 18}{z^2 - 11z + 18}.$$

Subtracting both sides from (4) we get

$$-\frac{z^2 + 33z - 162}{2z^2} = \frac{3z^2 - 33z + 90}{z^2 - 11z + 18};$$

$$\therefore -\frac{(z-6)(z-27)}{2z^2} = \frac{3(z-5)(z-6)}{(z-2)(z-9)};$$

$$\therefore z-6=0, z=6, x = \frac{54-6 \times 5}{2 \times 6} = 2; y=3.$$

J. L. COX, B.A.,

Math. Master, C.I., Collingwood.

84. In the equation $ax^2 + bx + c = 0$, find both values of x in the following cases:

1st, $a=0$; 2nd, $c=0$; 3rd, $a=c=0$;
4th, $b=c=0$; and 5th, when $a=b=0$.

1st, $x=\infty$, and $-\frac{c}{b}$; 2nd, $x=0$, and $-\frac{b}{a}$;

3rd, $x=\infty$ and 0 ; 4th $x=0$ and 0 ; 5th, $x = \infty$ and ∞ .

We have

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{2c}{-b \mp \sqrt{b^2 - 4ac}}.$$

The latter form being obtained from the former by multiplying numerator and denominator by $-b \mp \sqrt{b^2 - 4ac}$, and if any of the values is indeterminate under one form, it can always be found from the other; it can also very readily be proved in any equation that if n of the coefficients of the highest powers are separately $= 0$, there are n infinite roots; and if there are n coefficients of the lowest power of x including 0, separately $= 0$, then there are n roots $= 0$.

85. Solve the equations $x^3 + y^3 = 35$,
 $x^2 + y^2 = 13$,

giving the six values of x and y .

$(x+y)^3 - 3xy(x+y) = 35$ (1)
 $(x+y)^2 - 2xy = 13$ (2)

whence eliminating xy we have $(x+y)^3 - 39(x+y) + 70 = 0$; whence by inspection $x+y = 2$; $x+y = 5$, and $x+y = -7$; whence from

(2) $4xy = -18, 24, \text{ or } 72$;
 $x-y = \sqrt{22}, 1, \text{ or } \sqrt{-23}$.

$x = 1 \pm \frac{1}{2}\sqrt{22}, 3, 2 \text{ and } \frac{1}{2}(-7 \pm \sqrt{-23})$
 $y = 1 \mp \frac{1}{2}\sqrt{22}, 2, 3 \text{ and } \frac{1}{2}(-7 \mp \sqrt{-23})$

86. Solve $\frac{11}{x-3} - \frac{39}{x-4} + \frac{45}{x-5} - \frac{17}{x-6} = 0$,

giving the three values of x .

$-\frac{11}{x-3} + \frac{17}{x-6} = -\frac{39}{x-4} + \frac{45}{x-5}$
 $\frac{6x+15}{x^2-9x+18} = \frac{6x+15}{x^2-9x+20}$

$(6x+15) \{ x^2 - 9x + 20 - (x^2 - 9x + 18) \} = 0$.
 $2(6x+15) = 6(2x+5) = 0$.

when $x = -\frac{5}{2}$; the other factor is of the form (0) $x^2 + (0)x + 6 = 0$, and both values of x are infinite.

87. Prove that

$(ax+by+cz)^3 + (bx+cy+az)^3 + (cx+ay+bz)^3$
 $= 3(ax+by+cz)(bx+cy+az)(cx+ay+bz)$,
 if $a+b+c=0$, or if $x+y+z=0$.

If $a+\beta+\gamma=0$, then $a+\beta=-\gamma$.
 $a^3 + \beta^3 + 3a\beta(a+\beta) = -\gamma^3$; but $a+\beta=-\gamma$
 $\therefore a^3 + \beta^3 + \gamma^3 = 3a\beta\gamma$.

now $ax+by+cz = a$
 $bx+cy+az = \beta$
 $cx+ay+bz = \gamma$

$(a+b+c)(x+y+z) = a+\beta+\gamma$, and is 0, if either $a+b+c=0$, or $x+y+z=0$.

88. If $x+y+z=2s$, then will

$(s-x)^3 + (s-y)^3 + (s-z)^3 + 3xyz = s^3$.
 $(s-x) + (s-y) + (s-z) = s$, whence cubing this equation, $(s-x)^3 + (s-y)^3 + (s-z)^3 + 3x(s-x)^2 + 3y(s-y)^2 + 3z(s-z)^2 + 6(s-x)(s-y)(s-z) = s^3 = (s-x)^3 + (s-y)^3 + (s-z)^3 + 3(x+y+z)s^2 - 6s(x^2+y^2+z^2) + 3(x^2+y^2+z^2) + 6s^2 - 6(x+y+z)s^2 + 6s(xy+yz+zx) - 6xyz = (s-x)^3 + (s-y)^3 + (s-z)^3 + 6s^2 - 6s(x^2+y^2+z^2 - xy - xz - yz) + 3(x^2+y^2+z^2) + 6s^2 - 12s^2 - 6xyz = (s-x)^3 + (s-y)^3 + (s-z)^3 - 3(x^2+y^2+z^2 - 3xyz) + 3(x^2+y^2+z^2) - 6xyz = (s-x)^3 + (s-y)^3 + (s-z)^3 + 3xyz = s^3$.

89. If $x+y+z=0$, then will

$2(x^6 + y^6 + z^6) - 9xyz(x^6 + y^6 + z^6)$
 $+ 21x^3y^3z^3 = 0$,
 and also $x^6 + y^6 + z^6 + 9x^3y^3z^3(x^{-3} + y^{-3} + z^{-3}) - 30x^3y^3z^3 = 0$.

$x^6 + y^6 + z^6 = 3xyz$ (1) by cubing $x+y+z=0$.
 Cubing this expression again we have,
 $x^9 + y^9 + z^9 + 3x^6(3xyz - x^3) + 3y^6(3xyz - y^3) + 3z^6(3xyz - z^3) + 6x^3y^3z^3 = 27x^6y^3z^3 - 2(x^9 + y^9 + z^9) + 9xyz(x^6 + y^6 + z^6) = 21x^6y^3z^3$, or $2(x^9 + y^9 + z^9) - 9xyz(x^6 + y^6 + z^6) + 21x^3y^3z^3 = 0$.

Second part, squaring equation (1) we have $x^6 + y^6 + z^6 + 2x^3y^3 + 2x^3z^3 + 2y^3z^3 = 9x^2y^2z^2$
 $x^6 + y^6 + z^6 = 9x^2y^2z^2 - 2x^3y^3z^3(x^{-3} + y^{-3} + z^{-3})$
 $2(x^9 + y^9 + z^9) - 81x^6y^3z^3 + 18x^4y^4z^4$
 $(x^3y^3z^3) + 21x^3y^3z^3 = 0$.
 $x^9 + y^9 + z^9 + 9x^4y^4z^4(x^{-3}y^{-3}z^{-3}) - 30x^3y^3z^3 = 0$.

90. If $\frac{b^2+c^2-a^2}{2bc}$ always lies between ± 1 , then will the sum of any two of these quantities be greater than the third.

$b^2 + c^2 - a^2 < 2bc$ and $> -2bc$
 $b^2 + 2bc + c^2 > a^2$ (1)
 $b^2 - 2bc + c^2 < a^2$ (2)

From (1) $b+c > \pm a$

(2) $a > \pm (b-c)$;

or, $b+c > a$; $b+c+a > 0$; $a > b-c$, and $a > c-b$; or, $(a+b+c) > 0$; $b+c-a > 0$; $a-b+c > 0$, and $a-c+b > 0$.

91. If $(-1)^{\frac{1}{2}} + (-1)^{-\frac{1}{2}} = y$, show that its value is given by the equation $y^3 - 3y + 2 = 0$, and solve this equation.

Let $(-1)^{\frac{1}{2}} = x$ and $(-1)^{-\frac{1}{2}} = x^{-1}$ then $x+x^{-1} = y$, and cubing this equation $x^3 + x^{-3} + 3(x+x^{-1}) = x^3 + x^{-3} + 3y = y^3$; but $x^2 = 1$ and $x^{-2} = -1$.

$$\therefore 2+3y = y^3. \quad y^3 - 3y + 2 = 0;$$

the values are, $y = 1, 1, \text{ and } -2$.

EDGAR FRISBY, M.A.,
Naval Observ., Washington.

124. What is the length of an edge of the largest cube that can be cut from a sphere 40 inches in diameter?

The diameter of the circle is a diagonal of the cube; therefore this diagonal is the hypotenuse of a right-angled triangle, one side of which is an edge of the cube and the other side a diagonal of a face of the cube. This last side is an edge of the cube multiplied by $\sqrt{2}$; therefore the first diagonal is an edge of the cube multiplied by $\sqrt{3}$; then $40 \div \sqrt{3}$ gives the edge desired, which is 23.08.

125. Any number is divisible by 11, if, counting from the units place, the sum of the digits in the odd places is equal to the sum of the digits in the even places, or if the difference between these sums is divisible by 11. Give mathematical proof of this.

Let p, q, r, s , etc., be the digits composing the given number, and suppose that p occupies the sixth place from the decimal point, q the fifth, and so on: then the number will be $(10)^6 p + (10)^5 q + \dots + (10)u + v$; or in a different form: $(11-1)^6 p + (11-1)^5 q + (11-1)^4 r + \dots + (11-1)u + v$. Expanding in each case, it is seen that 11 is a factor of every term except the right hand ones of each expansion, and these last terms are of the form $+p; -q; +r; -s; +t;$

$-u+v$. Now if the sum of these terms is 0, or is divisible by 11, the sum of the expansions, and consequently the whole number is divisible by 11.

126. A circular grass plot, whose area is one-quarter of an acre, has erected at its centre a pole 12 feet high, and of the uniform diameter of one foot. Attached to the top of this pole is one end of a cord, the length of which is just sufficient to allow the other end to touch the edge of the plot. The cord is then wound spirally on the post so as to make one complete revolution in every foot of its descent. When it has been thus wound from the top to the bottom of the post, what is the area of the circle, in square yards, of which the unwound part of the cord is radius.

The length of the string is obtained by finding the hypotenuse of a right-angled triangle whose perpendicular is 12 feet and base the radius of the circle. Taking π as 3.1416, we find $R = 58.86$ feet, and the string is 60.67 feet long. Now the length of string required to make one spiral on the post is the length of the hypotenuse of a right-angled triangle whose perpendicular is one foot, and base the circumference of the post. For one spiral there is wanted 3.29 feet, and for 12 spirals 39.48 feet. Now $60.67 - 39.48 = 21.19$, which is the radius of the second circle. From this the area is found to be 1410.61 feet or 156.73 yards.

127. If x be any odd number greater than unity, shew that $(x^5 - x)$ is divisible by 24; also that $(x^2 + 3)(x^2 + 7)$ is divisible by 32.

$(x^5 - x) = x(x-1)(x+1)(x+2)$, that is, arranging them in ascending order $(x-1)x(x+1)(x+2)$ or 4 consecutive integers. Now if x be odd, $(x-1)$ is divisible by 2, $(x+1)$ is divisible by 2, and one of their quotients is again divisible by 2: therefore the product of the divisors thus far is 8. If x be even the same reasoning applies to x and $(x+2)$, but some one of any three consecutive integers is divisible by 3, therefore the whole number is divisible by 24.

[This also follows from the general proposition: "that the product of n consecutive integers is divisible by $n!$ "]

To shew that $(x^2 + 3)(x^2 + 7)$ is divisible by 32, let x be any odd number greater than unity; then $(x^2 + 3) = (x + 1)(x - 1) + 4$. Now x is odd; therefore $(x + 1)$ and $(x - 1)$ are each divisible by 2; therefore the quantity $(x + 1)(x - 1) + 4$ or $x^2 + 3$ is divisible by 4. So $(x^2 + 7) = (x + 1)(x - 1) + 8$. Again, each of the factors $(x + 1)$ and $(x - 1)$ is divisible by 2, and one of these quotients is again divisible by 2; therefore the quantity $(x + 1)(x - 1) + 8$, or $x^2 + 7$ can be divided by 8 and the whole expression $(x^2 + 3)(x^2 + 7)$ is divisible by 8×4 , or 32.

128. The sum of the squares of three consecutive numbers, when increased by unity, is divisible by 12 but never by 24.

Let x be any even number, then $x - 1$, $x + 1$ and $x + 3$ are three consecutive odd numbers. Square each, add together and increase the sum by unity; the result is $3x^2 + 6x + 12$, which is $3(x^2 + 2x + 4)$. Now x is even; therefore x^2 is divisible by 4, as is also $2x$; therefore 4 is a factor of $x^2 + 2x + 4$, and $3(x^2 + 2x + 4)$ is divisible by 3×4 , or 12.

129. If $x = (\rho + q)^2$, find value of $(\rho^2 + q^2)x - 2\rho q x - (q^4 + \rho^4)$

Substitute value of x in the given expression:

$$\begin{aligned} & (\rho^2 + q^2)(\rho + q)^2 - 2\rho q(\rho + q)^2 - (q^4 + \rho^4) \\ &= (\rho^2 + q^2)^2 + 2\rho q(\rho^2 + q^2) - 2\rho q(\rho^2 + q^2) - 4\rho^2 q^2 - (q^4 + \rho^4) \\ &= 2\rho^2 q^2 - 4\rho^2 q^2 = -2\rho^2 q^2 \end{aligned}$$

130. Shew that

$$\begin{aligned} (x - y)^2 + (y - z)^2 + (z - x)^2 \\ &= 3(x - y)^2 + 3(y - z)^2 + 3(z - x)^2 \\ &\quad - 6(x - y)(y - z)(z - x). \end{aligned}$$

$$\begin{aligned} (x - y) + (y - z) + (z - x) &= 0 \\ \{(x - y) + (y - z) + (z - x)\}^2 &= 0 \end{aligned}$$

$$\begin{aligned} (x - y)^2 + (y - z)^2 + (z - x)^2 &= -3(x - y)^2 \\ \{(y - z) + (z - x)\} - 3(y - z)^2 \{(x - y) + (z - x)\} - 3(z - x)^2 \{(x - y) + (y - z)\} &= -6(x - y)(y - z)(z - x). \end{aligned}$$

$$\begin{aligned} (x - y)^2 + (y - z)^2 + (z - x)^2 &= 3(x - y)^2 \\ (x - y) + 3(y - z)^2(y - z) + 3(z - x)^2(z - x) - 6(x - y)(y - z)(z - x); & \text{ that is, } (x - y)^2 \\ + (y - z)^2 + (z - x)^2 &= 3(x - y)^2 + 3(y - z)^2 \\ + 3(z - x)^2 - 6(x - y)(y - z)(z - x). \end{aligned}$$

131. Shew that

$$abc > (a + b - c)(a + c - b)(b + c - a).$$

If one relation exists between the values of a , b and c , this proposition is not true; point out that relation.

1. $a^2 > a^2 - (b - c)^2; \therefore a^2 > (a - b + c)(a + b - c)$
 2. $b^2 > b^2 - (a - c)^2; \therefore b^2 > (b - a + c)(b + a - c)$
 3. $c^2 > c^2 - (a - b)^2; \therefore c^2 > (c - a + b)(c + a - b)$
- Multiplying, we get
4. $a^2 b^2 c^2 > (a - b + c)^2 (b - a + c)^2 (a + b - c)^2$
 5. $abc > (a - b + c)(b - a + c)(a + b - c)$.

132. Two spheres, whose radii are x and y , touch each other internally. Find the distance of the centre of gravity of the solid contained between the two surfaces, from the point of contact.

Let m_1 = volume of larger sphere whose radius is x , and m_2 = volume of smaller sphere whose radius is y . The centre of gravity of a sphere is at its centre. Let v = the distance of the centre of gravity of the solid contained between the surfaces from the point of contact. Then

$$\begin{aligned} v(m_1 - m_2) &= m_1 x - m_2 y \\ v &= \frac{m_1 x - m_2 y}{m_1 - m_2}, \end{aligned}$$

$$\text{but } m_1 = \frac{4}{3} \pi x^3 \text{ and } m_2 = \frac{4}{3} \pi y^3.$$

Substituting for m_1 and m_2 we get

$$v = \frac{\frac{4}{3} \pi x^4 - \frac{4}{3} \pi y^4}{\frac{4}{3} \pi x^3 - \frac{4}{3} \pi y^3} = \frac{x^4 - y^4}{x^3 - y^3} = \frac{(x + y)(x^2 + y^2)}{x^2 + xy + y^2}.$$

W. J. ELLIS, B.A.,

Math. Master, Coll. Institute, Cobourg.

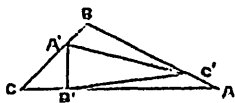
137. The sides of a triangle ABC are divided in order in ratio $m : n$, and the points of section joined and a new triangle formed; the sides of this being divided as before, and so on to the r^{th} triangle.

Shew that the areas of the given triangle and the r^{th} inscribed triangle are in ratio

$$\left\{ \frac{(m + n)^2}{m^2 - mn + n^2} \right\}^r, \text{ and also that any rational}$$

algebraic function of the areas of the odd triangles of the series will be to the same function of the areas of the even triangles in

$$\text{ratio } \frac{(m + n)^2}{m^2 - mn + n^2}.$$



Let A', B', C' be the points of section of BC, CA, AB , respectively.

$$\text{Then } CA' = \frac{ma}{m+n}; CB' = \frac{nb}{m+n}$$

$$\therefore \text{area } CA'B' = \frac{1}{2} \frac{ma}{m+n} \frac{nb}{m+n} \sin C;$$

$$\text{similarly } AB'C' = \frac{1}{2} \frac{mb}{m+n} \frac{nc}{m+n} \sin A;$$

$$\text{similarly } BC'A' = \frac{1}{2} \frac{mc}{m+n} \frac{na}{m+n} \sin B.$$

Summing the three areas,

$$\frac{1}{2} \left\{ \frac{mn}{(m+n)^2} \right\} \{ ab \sin C + bc \sin A + ca \sin B \}$$

$$= \frac{1}{2} \left\{ \frac{mn}{(m+n)^2} \right\} \{ 3 bc \sin A \}$$

$$\text{since } \frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c} =$$

$$\frac{bc \sin A + ca \sin B + ab \sin C}{3 abc}; \text{ hence}$$

$$\frac{\text{area } ABC}{\text{area } A'B'C'} = \frac{\frac{1}{2} bc \sin A}{\frac{1}{2} bc \sin A - \frac{3mn}{(m+n)^2} bc \sin A}$$

$$= \frac{(m+n)^2}{m^2 - mn + n^2}.$$

It follows that the second triangle is to the third in the same ratio, and so on; hence

$$\frac{\text{area } ABC}{\text{area } A^r \text{th inscribed } \triangle} = \left\{ \frac{(m+n)^2}{m^2 - mn + n^2} \right\}^r.$$

Also, putting A, A_1, A_2, \dots, A_r for the areas of the given triangle ABC and the 1st, 2nd, etc., r^{th} inscribed triangles.

$$\frac{A}{A_1} = \frac{A_2}{A_1} = \frac{A_4}{A_3} = \text{etc.}$$

$$= \frac{A_{2r}}{A_{2r+1}} = \frac{(m+n)^2}{m^2 - mn + n^2};$$

hence

$$\frac{f. (A, A_2, \dots, A_{2r})}{f. (A_1, A_3, \dots, A_{2r+1})} = \frac{(m+n)^2}{m^2 - mn + n^2}.$$

138. Sum the infinite series

$$\frac{1}{1.2} \tan \theta + \frac{1}{2.3} \tan^2 \theta - \frac{1}{3.4} \tan^3 \theta -$$

$$\frac{1}{4.5} \tan^4 \theta + \text{etc.}$$

Write the series,

$$\frac{2-1}{1.2} \tan \theta + \frac{3-2}{2.3} \tan^2 \theta - \frac{4-3}{3.4} \tan^3 \theta -$$

$$\frac{5-4}{4.5} \tan^4 \theta + \text{etc.}$$

which readily breaks up into

$$\tan \theta - \frac{1}{2} \tan^2 \theta + \frac{1}{3} \tan^3 \theta - \text{etc.} \quad (= 0)$$

$$- \frac{1}{2} \tan \theta + \frac{1}{3} \tan^2 \theta - \frac{1}{4} \tan^3 \theta + \text{etc.}$$

$$\left(= \frac{1}{\tan \theta} \log \cos \theta \right)$$

$$\frac{1}{2} \tan^2 \theta - \frac{1}{3} \tan^3 \theta + \frac{1}{4} \tan^4 \theta - \text{etc.}$$

$$\left(= -\log \cos \theta \right)$$

$$- \frac{1}{2} \tan^2 \theta + \frac{1}{3} \tan^3 \theta - \frac{1}{4} \tan^4 \theta + \text{etc.}$$

$$\left(= -\frac{1}{\tan \theta} \left\{ \tan \theta - \theta \right\} \right)$$

adding the partial sums and simplifying.

Series =

$$(\cot \theta - 1) \log \cos \theta + (\cot \theta + 1) \theta - 1.$$

This result may also be arrived at by multiplying the proposed series by $\tan \theta$, differentiating with respect to $\tan \theta$, summing and integrating.

139. Prove that

$$\begin{vmatrix} \frac{b+c}{a} & \frac{a}{b+c} & \frac{a}{b+c} \\ \frac{b}{c+a} & \frac{c+a}{b} & \frac{b}{c+a} \\ \frac{c}{a+b} & \frac{c}{a+b} & \frac{a+b}{c} \end{vmatrix} = \frac{2(a+b+c)^2}{(a+b)(b+c)(c+a)}$$

Reducing each row to a common denominator and dividing thro' by

$$\frac{1}{abc(a+b)(b+c)(c+a)}$$

$$\begin{vmatrix} (b+c)^2 & a^2 & a^2 \\ b^2 & (c+a)^2 & b^2 \\ c^2 & c^2 & (a+b)^2 \end{vmatrix} = 2abc(a+b+c)^2$$

For a new determinant, subtract the 2nd column from the 1st for the 1st row; subtract the 3rd column from the 2nd for the 2nd row; and add all three columns for the 3rd row.

$$\begin{vmatrix} (b+c)^2 - a^2 & 0 & 2a^2 + (b+c)^2 \\ b^2 - (c+a)^2 & (c+a)^2 - b^2 & 2b^2 + (c+a)^2 \\ 0 & c^2 - (a+b)^2 & 2c^2 + (a+b)^2 \end{vmatrix} \\ = 3 \times 2abc (a+b+c)^2$$

and dividing the 1st and 2nd columns by $(a+b+c)$

$$\begin{vmatrix} b+c-a & 0 & 2a^2 + (b+c)^2 \\ b-c-a & c+a-b & 2b^2 + (c+a)^2 \\ 0 & c-a-b & 2c^2 + (a+b)^2 \end{vmatrix}$$

The determinant now vanishes when $a=0$, since it reduces to

$$\begin{vmatrix} b+c & 0 & (b+c)^2 \\ b-c & c-b & 2b^2 + c^2 \\ 0 & c-b & 2c^2 + b^2 \end{vmatrix}$$

Subtract the third row from the second, for a new first row.

$$\begin{vmatrix} b-c & 0 & b^2 - c^2 \\ b+c & 0 & (b+c)^2 \\ 0 & c-b & 2c^2 + b^2 \end{vmatrix} = (b^2 - c^2) \times \\ \begin{vmatrix} 1 & 0 & b+c \\ 1 & 0 & b+c \\ 0 & c-b & 2c^2 + b^2 \end{vmatrix} = (b^2 - c^2) \times 0$$

Similarly the determinant vanishes when $b=0$, and when $c=0$, and since it is symmetrical and of four dimensions the only other factor must be $k(a+b+c)$.

To determine k put $a=b=c=1$.

$$\begin{vmatrix} 1 & 0 & 6 \\ -1 & 1 & 6 \\ 0 & -1 & 6 \end{vmatrix} = 3k.$$

$$6 \begin{vmatrix} 1 & 0 & 1 \\ 0 & 1 & 2 \\ 0 & -1 & 1 \end{vmatrix} = 3k.$$

$$2 \begin{vmatrix} 1 & 2 \\ -1 & 1 \end{vmatrix} = k = 6$$

$$\therefore \begin{vmatrix} b+c & a & a \\ a & b+c & b+c \\ c+a & b & c+a \end{vmatrix} = \frac{2(a+b+c)^3}{(a+b)(b+c)(c+a)}$$

WM. J. R. McMINN, B.A., Ottawa.

PROBLEMS.

140. Shew, using only propositions of Book I., how, by means of a string of unlimited length, a straight line may be drawn through a given point, parallel to a given straight line.

Let ABC be a triangle right-angled at A , and having the angle at B , double the angle at C . Bisect the angle B by the line BD , meeting AC in D , and draw AE, DF , perpendicular to BC . Shew, by Geometry, that $DC = BD$, that $AE : AD :: 3 : 2$, and that triangle $DEF = \frac{1}{4}$ triangle ABC .

141. Shew, n being a positive and even integer, that

$$1 + \frac{n+1}{2} + \frac{(n+2)(n+1)}{3} + \frac{(n+3)(n+2)(n+1)}{4} + \text{etc...} \\ = \frac{2}{n} \left\{ \frac{n}{1} + \frac{n+2}{3} + \frac{n+4}{5} + \dots \right\} \\ \times \left\{ 1 + n + \frac{n(n-1)}{2} + \frac{n(n-1)(n-2)}{3} + \dots \text{to } (n+1) \text{ terms.} \right\}$$

142. Resolve into elementary factors, $6x^3 + x^2 - 64x + 21$. $x^4 - 9x^3 + 5x^2 + 93x - 90$. $x^4 + 8x^3 + 20x^2 + 16x - 21$.

143. If $a : b : c :: x : y : z$, and

$$\frac{a^2 + 5b^2}{7a^2x^2 + 9b^2y^2} = \frac{5b^2 + 6c^2}{9b^2y^2 + 11c^2z^2} =$$

$$\frac{6c^2 + a^2}{11c^2z^2 + 7a^2x^2};$$

then each of the latter fractions,

$$= \frac{x^2 + 5y^2 + 6z^2}{7x^4 + 9y^4 + 11z^4}.$$

144. If A, B, C , be the angles of a plane triangle, a, b, c , the sides respectively opposite to them, then

$$\left(\frac{a}{\cos A} + \frac{b}{\cos B} + \frac{c}{\cos C} \right)^{-1} \\ = \frac{2 \cos A \cos B \cos C}{a \cos A + b \cos B + c \cos C}$$

D. F. H. WILKINS, B.A.,
Math. Master, High School, Chatham.

UNIVERSITY OF TORONTO.

ANNUAL EXAMINATIONS—1880.

PROBLEMS.

Honours.

1. Find a point within an isosceles triangle such that its distance from each of the base angles is half its distance from the vertical angle.

2. If an exterior angle of a triangle be bisected by a straight line which likewise cuts the base; the rectangle contained by the sides of the triangle, together with the square on the line bisecting the angle is equal to the rectangle contained by the segments of the base.

3. If x, y, z , be the perpendiculars from the angles of a triangle on the opposite sides, and if

$$\frac{1}{x} + \frac{1}{y} + \frac{1}{z} = \frac{2}{\sigma},$$

prove that

$$4\sqrt{\frac{1}{\sigma} \left(\frac{1}{\sigma} - \frac{1}{x}\right) \left(\frac{1}{\sigma} - \frac{1}{y}\right) \left(\frac{1}{\sigma} - \frac{1}{z}\right)} = \frac{1}{\text{area of triangle}}$$

IV. Prove that every power of the sum of two squares may be divided into two parts, each of which is the square of an integer.

V. Find the sum of the series

$$\frac{4}{1 \cdot 5} + \frac{9}{5 \cdot 14} + \frac{16}{14 \cdot 30} + \frac{25}{30 \cdot 55} + \dots \text{to } n \text{ terms,}$$

the last factor in the denominator being the sum of the other factor and the numerator.

VI. If n be prime, prove that any number in the scale whose radix is $2n$ ends in the same digit as its n^{th} power.

VII. If

$$\frac{p_r}{q_r} \text{ be the } r^{\text{th}} \text{ convergent to } \frac{\sqrt{5+1}}{2},$$

prove that

$$p_3 + p_5 + \dots + p_{2n-1} = p_{2n} - p_1,$$

$$q_3 + q_5 + \dots + q_{2n-1} = q_{2n} - q_1,$$

VIII. Find the number of combinations that can be made out of the letters in the following line:

$\alpha\alpha\alpha\alpha\alpha\alpha\alpha, \alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha\alpha.$

taking them (1) 5 together, (2) 25 together.

IX. If $\phi(r) = \frac{1}{r}$

$$\left\{ \frac{1}{r} \frac{1}{n-r} + \frac{1}{r-1} \frac{1}{n-r+1} \right. \\ \left. + \frac{1}{r-2} \frac{1}{n-r+2} \frac{(r-1)(r-2)}{1 \cdot 2} + \dots \right\}$$

prove that

$$2[\phi(0) + \phi(1) + \dots + \phi(n-1)] + \phi(n) = 3^n.$$

X. Eliminate x, y, z from the simultaneous equations.

$$\begin{cases} \frac{a}{x} = \frac{1}{y} + \frac{1}{z} \\ \frac{\beta}{y} = \frac{1}{z} + \frac{1}{x} \\ \frac{\gamma}{z} = \frac{1}{x} + \frac{1}{y} \end{cases}$$

Why are these three equations sufficient for the elimination of the three unknowns?

XI. If $A + B + C = \frac{\pi}{2}$, shew that

$$(1) \cot A + \cot B + \cot C = \cot A \cot B \cot C.$$

$$(2) \tan A + \tan B + \tan C = \tan A \tan B \tan C + \sec A \sec B \sec C.$$

12. ABC is an equilateral triangle; circles are described on AB and AC as diameters; tangents are drawn through the points B and C . Prove that the radius of the circle touching these tangents and the two circles is very nearly one-eighth of the side of the triangle.

13. On the side BC of the triangle ABC are drawn two equilateral triangles, $A'BC$ and $A''BC$; likewise, the equilateral triangle $B'CA$, $B''CA$ and $C'AB$, $C''AB$ are drawn on the sides CA and AB respectively. Prove that

$$A'A'AA'' = B'B'BB'' = C'C'CC''.$$

XIV. If (p, q, r) be the perpendiculars on

the sides of a triangle ABC from the centre of the circumscribing circle, prove that

$$aqr + brp + cpq = \frac{abc}{4}.$$

XV. A circle is described through the foci of an ellipse and any point on its circumference. Two tangents are drawn to this circle through one extremity of the major axis. Shew that the locus of the points of contact of these tangents is a circle whose radius is equal to the minor axis of the ellipse.

16. CP, CD are conjugate semi-axes of an ellipse; PNE is drawn parallel to the minor axis CB , meeting the major axis in N and CD in E . Prove that the area of the triangle

$$PCE \text{ is } = 2 CB^2 \cdot \frac{PN}{CN}.$$

17. OA and OB are asymptotes of a hyperbola; CEI a tangent perpendicular to OA ; from C the foot of this perpendicular CD is drawn at right angles to OB . Prove that every perpendicular drawn from the curve to CD or CD produced will subtend at E , where the tangent CEI meets the hyperbola, a constant angle.

18. TP, TQ are two tangents to an ellipse at right angles to one another, S a focus, prove that

$$\sin^2 SPT + \sin^2 SQT = \text{constant}.$$

SOLUTIONS

To Natural Philosophy paper of London University (published in March No.), by Messrs. R. F. GREENLEES, J. EWINGS, C. MOREY, T. STEVENSON, Scholars, Collingwood Collegiate Institute:—

3. What is the centre of gravity of a body? A line is drawn across an equilateral triangle, of 12 inches side, parallel to its base, and so as to cut off one-fourth of its area. Find the distance of the base from the centre of gravity of the remainder.

For centre of gravity see Cherriman & Baker's Mechanics.

Since ABC , and AEF are similar triangles, and that AEF is $\frac{1}{4} ABC$,

$$\therefore \text{(VI. 19) } AD = \frac{AG}{2},$$

$$\text{and } AG = 6\sqrt{3}, \therefore AD = 3\sqrt{3}.$$

Let x = distance of centre of gravity of $EFCB$ from base.

Then taking moments about the base,

$$36\sqrt{3} \times 2\sqrt{3} = 9\sqrt{3}(3\sqrt{3} + \sqrt{3}) + 27\sqrt{3}x.$$

$$72\sqrt{3} = 36\sqrt{3} + 27x$$

$$x = \frac{36\sqrt{3}}{27} = \frac{4\sqrt{3}}{3} \text{ inches from base.}$$

4. Equal forces act for the same time upon bodies of different mass. What is the relation between the effects which they produce? Describe fully the unit of force implied in the equation $P = mf$.

See Cherriman & Baker's Mechanics.

5. A body is allowed to fall freely from rest. Find an expression for its velocity at any point in terms of the distance through which it has fallen and the acceleration of gravity. If $g = 981$ centimetre-second units, from what height must a body fall in order that it may have a velocity of 50 metres per second on striking the ground?

(1) See Cherriman & Baker's Mechanics.

$$v^2 = 2gs.$$

$$(50)^2 = 2 \times 981s$$

$$s = \frac{50 \times 50}{2 \times 981} = 127\frac{1}{2} \text{ metres.}$$

6. A cubic foot of water may be assumed to contain 1,000 ounces, while a gallon contains 10lbs. Two gallons of water are placed in a cylindrical can, 10 inches in diameter. Find the whole pressure upon the curved surface of the can.

Radius of base = 5, \therefore area of base = $\frac{1}{4}\pi$ square feet.

$$2 \text{ gals.} = 20 \text{ lbs.} = 320 \text{ oz.};$$

$$\therefore \text{ volume of water} = \frac{320}{1000} \text{ cb. ft.} = \frac{8}{125} \text{ cb. ft.}$$

$$\therefore \text{ Depth of water in cylinder} = \frac{8}{125} \div \frac{1}{4}\pi;$$

$$= \frac{8}{25} \times \frac{144 \times 7}{25 \times 22} = \frac{56 \times 72}{11 \times (25)^2}.$$

$$\text{Circumference of base} = \frac{10 \times 22}{7};$$

$$\therefore \text{ area of surface} = \frac{56 \times 72}{11 \times (25)^2} \times \frac{10 \times 22}{7} =$$

$$\frac{192}{125} \text{ square feet.}$$

$$\therefore \frac{192}{125} \times \frac{1000}{16} \times \frac{28 \times 72}{11 \times (25)^2} = \frac{193536}{6875} = 28\frac{1}{875}$$

NOTES ON STUMME LIEBE,* BY MUSÄUS.

BY A MUELLER, MODERN LANGUAGE MASTER, BERLIN HIGH SCHOOL.

THE writer of "Stumme Liebe," Johann Karl August Musäus, was born 1735, at Jena, where he studied theology, intending to enter the church. The members of a congregation to which he had been appointed, refused, however, to accept him as their pastor, alleging that he had danced at one time. He afterwards was appointed "Master of the Pages" at the Court of Weimar. In 1770, he became Professor at the Weimar gymnasium, where he died 1787. All the writings of this author have the same object in view, viz., to satirize the style of certain authors in vogue in his time. (See page 7 of "Stumme Liebe.") This endeavour is most conspicuous in his "Volksmärchen der Deutschen," all of which lack that unaffected, artless, easy flow, so characteristic of the German legends, and which has made the Grimms and Hauff household words. The moral tone in "Stumme Liebe" is not the best, the book being specially objectionable for young pupils. Musäus' first work was levelled against Richardson's novel "Sir Charles Grandison," a somewhat tedious work of fiction much read in Germany, and which was satirized in "Grandison der Zweite." His next work "Physiognomische Reise," was written in opposition to Lavater's once famous book, "Physiognomische Fragamente zur Beförderung der Menschenkunde und Menschenliebe," in which the author propounds the theory that the character of man can be ascertained by the lineaments of the face. Lavater's quickly-spreading theory was largely checked by this work of Musäus, and after its appearance he produced the previously mentioned work,

"Volksmärchen" of which "Stumme Liebe" is a fair sample.

(Pages and lines refer to the small Leipzig edition.)

p. 1, l. 3.—Reichen Manné im Evangelium.

See Luke 16, v. 19.

" 10.—Aufs solide gestellt—Placed on a solid basis.

" 25.—Quabbenschmaus.—Quabbe, a fish resembling the eel and largely caught in the Weser.

" 26.—Hab und Gut—Idiomatrical expression for chattel and lands.

p. 4, l. 3.—Consistent—Well knit.

" 10.—Geilen Ueberwuchs—Runs to rank growth.

" 14-16.—So suchte er..zu entledigen—He sought to free himself from it, as if it were from a heavy burden.

" 20.—Krüselbraten—Probably a roast, small enough to go into a *Krüsel*, low German for pot with a handle.

p. 6, l. 2.—Von stund an—Without delay.

" 17.—Nach der denkungsart, etc.—Observe how the author criticizes the fiction writers of his time.

p. 7, l. 22.—Robinsonaden—Tales founded on Robinson Crusoe.

" 23-24.—Plimplamplaskos Kakerlaks—Words of author's coining, whose absence of meaning is supposed to represent the senselessness of the writings of his time.

" 24.—Rosenthalische—Very likely the licentious writings of Baron von Rosenthal.

* One of the works for Matriculation in German, at University of Toronto.

- p. 7, 25.—Höckerweiber, Hockerweiber—Women who keep stalls on the street, and a class of females not distinguished for their elegance of expression.
- “ 28.—Dietrich von Bern, Hildebrand, der gehörnte Seyfried—Characters taken from the *Nieblungenslied*, *Rosengarten*, etc.
- p. 7, l. 30.—Lindwurmsjagd, Lindwurm—A winged serpent.
- “ 32.—Thewerdank—The hero of an allegorical poem of the sixteenth century, representing Maximilian I. (1493-1519) as Thewerdank, a knight errant. Note that though this poem appeared first in 1517, and is called “das neuste product,” the story lies in the beginning of the sixteenth century. See also foot note on page 42.
- p. 8, l. 6.—Windsüchtig—Windstruck; as mondüchtig means moonstruck.
- p. 10, l. 20.—Kübbuz—On account of the learned profession of the hero, the author has given him the name of the Hebrew vowel “Kübbuz.”
- “ 27.—Eidam—Son-in-law.
- “ 30.—The simile of a lottery used by the author. The urn of fate would not pair the lot of her daughter with a blank.
- p. 12, l. 20.—Er heuerte—old form for micthen.
- p. 13, l. 5.—Toiletten-Besuche—Boudoir-visits.
- “ 15.—Gevatterschaften—(coming into) the state of god-father; *i.e.* christening-feasts.
- “ 22.—Der Schleifneg, *read* Schleichweg.
- p. 35.—Walschland, Italy; walsch, foreign.
- p. 14, l. 11.—Lauteniren—Play upon the lute.
- “ 13.—Blosen, *read* bloszen.
- “ 17.—Amphion, *see* Smith's Classical Dictionary.
- p. 15, l. 12.—Erwerb im Kleinen—Retail trade.
- p. 16, l. 23.—Leibrock—A complete dress comprising both leibchen (bodice) and rock (skirt).
- p. 16, l. 28.—Vor der Hand—At present.
- p. 17, l. 2.—Vermahelt—Bartered away.
- “ 3.—Stein—A weight chiefly used for weighing flax and hemp. One stein, 20 pounds.
- “ 10.—Refers to the massacre of Ursula and her eleven thousand virgin companions by the heathen Germans. Some writers say that no such massacre took place, but that Undecemilla, a maid of Ursula, was killed with her mistress, which gave rise to the misconception, undecim millia.
- p. 18, l. 17.—Das daraus gelöste Geld... zurück spedirt—The money obtained for it [was] packed together with the [other] most conscientiously calculated profit of the flax negotiation and sent back as an old debt with the assistance of the Hamburg messenger, to the address of Franz Mellherson, living in Bremen.—The [other] profit gives the idea that not only a profit had been made on the flax, but also from the sale of the dress.
- “ 27.—Hütete sich wohl—Took care not.

CONTEMPORARY OPINION ON EDUCATIONAL TOPICS.

THE SPELLING REFORM.

AN article in a late *Princeton Review*, by Professor Francis A. March, entitled "Spelling Reform," is noteworthy not so much because of its arguments as for the reason that it is printed in part in conformity with the theory it upholds. Alphabet is spelled *alfabet*; are is *ar*, have is *hav*, learn is *lern*, philosophy is *filosofy*, and so on. The arguments continually advanced by the spelling reformers are that many letters in English words are silent, and should, therefore, be excised; that it is possible in many instances to advantageously substitute one letter for another; that our system of spelling, which is now so conflicting, ought to be more uniform. There is no denying these assertions: there are silent letters; there are instances where a word would be spelled nearer to the sound by the change of a letter; and there is irregularity in our system of orthography. But the extent of these evils is greatly exaggerated by spelling reformers; and certainly we should only add confusion to confusion if every writer may at his pleasure set up a system of spelling, and every printer print books according to his notion of a reformed orthography. Already there are differences in spelling between English and American books, and even between Boston and New York books, that are vexatious to scholarly readers, and doubtless perplexing to others; and one can but wonder what sort of spelling reform that is which begins by widening differences and intensifying the existing confusion. Reformers who prematurely force new divergences into common practice simply shew that they are very much more enamoured of their theories than intent upon rendering practical service in the cause they espouse. To our mind it is very desirable that the

English-speaking world should unite upon a uniform method of spelling and pronunciation. Whether there are a few more or less silent letters in use, or whether an occasional word is spelled contrary to established analogies, seems to us unimportant beside the question of uniformity. American spelling is already so distasteful to English readers that they are repelled from our literature; and, if books are now to be printed in the manner of Professor March's article, our authors would be set down by English readers as writers in a barbaric tongue, and their books shut out altogether. And then a very large number of books read here are published in England, while in many instances those published here are printed from stereotype-plates made from the English originals, giving, of course, the English spelling. Inasmuch as readers thus fairly divide their attention between British and American books, it is almost imperative for a uniform system of spelling to be adopted. Whether men shall spell *hav*, or philosophy *filosofy*, seems to us very much less urgent than for such co-operation between English and American printers as will render books from either land equally easy to comprehend and equally agreeable to read by English-speaking peoples everywhere. There ought to be prepared an international dictionary under the joint supervision of English and American scholars, having the sanction of the great seats of learning in both countries, which should be accepted as the final standard everywhere. If our spelling reformers would labour to bring this about, they would do the Anglo-Saxon world an immense service. But it is hopeless to expect this so long as people entertain an exaggerated idea of the defects of English spelling. We sometimes hear of the enormous saving to writers and printers the

exclusion of silent letters would make, but, according to our estimate, these silent letters are not more than five per centum, which does not strike us as so great a matter. And it will be found that the words which perplex foreigners so greatly, constitute but a very small group. The main obstacle to foreigners and pupils is the identity in sound of words that have different meaning, such as *hear, here, there, their*, and for this difficulty phonetic spelling provides no remedy. The notions that the present irregu-

larity in our spelling is a fatal obstruction to learning to spell, and that "one of the causes of excessive illiteracy among the English-speaking peoples is the difficulty of the English spelling," seem to us very absurd. In fact, all those people who habitually read and write know how to spell, and those whose habits are unliterary are very apt to be bad spellers; and the spelling reformers will never be able to invent a short road to orthography that will obliterate this distinction.—*Appleton's Journal*.

A VERY moderate amount of knowledge of the other branches (other than geography in the sense of earth knowledge and history) at twenty-one, thoroughly accurate as far as it goes, is all I dream of; and it must be recollected that I would allow no subject to be commenced as a part of general education the study of which might not with great advantage be continued through the whole of life. Some subjects would, of course, be pursued in after life by one, some by another; but the kind of general education which approves itself to my mind would at least oblige those who passed through it to have looked at all the great divisions of human knowledge, and to have satisfied themselves whether they had or had not a turn for them. The line which bounds general education is, after all, only an imaginary one. General education should only end with life; but men who are to be busy with the world's work, and to give a due place to the second of the objects of life which I set out by enumerating (to do as much good as possible to other people), will, after one or two-and-twenty, begin to find the time they can give, in the course of the day, to general education,

much shorter than it used to be. Still, so great are the facilities which our modern life affords, that those who are now beginning their general education with the prospect of having all the chances, may well hope, if they live out their years and retain their energies, not only to know all the most important facts, which man has found out about himself, and the universe of which he forms part, but to have seen, heard, and read, before they die, all that is best and most beautiful in that portion of the universe which serves as man's habitation. In order to do this they must from the very first be carefully prevented from wasting their time on second or third-rate things. The real use of teachers, properly so called, after the very first of youth has been passed, would be chiefly to keep us within the limits of the really valuable and excellent. Not the least desirable professor in any university would be he who would tell us faithfully and wisely what famous books we had better leave on the bookshelves, what famous places we need not visit, what famous theories are cinders, ashes, dust.—*Plea for a Rational Education, by Mountstewart E. Grant-Duff*.

NEW VERSION OF AN OLD BALLAD.

[SUGGESTED BY THE PIRATED AND UNGRAMMATICAL "MANUALS" LATELY WRITTEN BY CERTAIN SCHOOL INSPECTORS IN TORONTO.]

"WHERE are you going, Inspector, well paid?"

"To publish a 'Manual,' Sir," he said.

"And where will you get it, Inspector, well paid?"

"From some other author, kind sir," he said.

"Are the Schools forced to use it, Inspector, well paid?"

"Yes, if they like it, Sir," he said.

"Mr. Crooks has forbidden it, Inspector, well paid!"

"Mr. Crooks is in England, Sir," he said.

"And what is your fortune, Inspector, well paid?"

"My brass face is my fortune, Sir," he said.

"But you lack sense and science, Inspector, well paid."

"'The Department' don't ax for it, Sir," he said.

PUBLIC SCHOOL DEPARTMENT.

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

THE RELATION BETWEEN PARENTS AND TEACHERS.*

I DO not profess to deal exhaustively with this subject, but will make a few suggestions for the consideration of my younger fellow teachers. Every one will admit that there ought to be friendly feelings between parents and teachers; where such feelings do not exist the teacher's influence is weak and his efforts are of little avail, be he ever so able and zealous in his work. Let us glance at some methods which are adopted by teachers to produce them. Some resort to frequent visiting; for in certain localities it is looked upon as one of the essential qualifications of a teacher that he be a good visitor. Teachers, in some instances, are not slow to adapt themselves to this easy way of gaining the good-will of the people; they adopt a pleasing style of conversation, take a somewhat pliant stand in theology and politics, suit themselves agreeably to the learned and to the illiterate, distribute their visits periodically, so that the parents are delighted, if not honoured and instructed, by the attentions of their teacher. He is soon looked upon as far superior to most of his predecessors in social amenities. Others try to win the affections of the parents through the pupils. Various devices are employed to this end. Some give presents, in the shape of prizes, cards, or confectionery. Others are mild and kind to a gushing extent. They never say anything that would give offence to the pupils; and if they do forget themselves in an unguarded moment, an abject apology must make things right ere

the child leaves for home. No thought is entertained of punishing the child's guilt as it deserves by a castigation, lest ill-feeling should be engendered, and unpleasantness be caused, on the part of the parents toward himself. Others seek to gain and retain the esteem of the pupils and parents by avoiding all appearance of harshness; they speak kindly even to delinquent pupils whose conduct is most reprehensible. They eschew corporal punishment, as fit only for a barbarous people in a barbarous age, and pretend to regard it as something that should not be introduced into the school-room by ladies and gentlemen in this enlightened nineteenth century. Order must not be enforced if pain will be caused, or if harsh measures have to be resorted to in order to secure it. The preparation of home work, if obnoxious, must not be rigidly insisted on, however easy the tasks may be, and however able the pupils may be to prepare them. And thus months may sometimes elapse without any serious study. At last a difficulty stares such a teacher in the face; a creditable appearance must be made at the annual spring examination. But he is equal to the emergency. The scholars are prepared to answer certain questions; the departures from these are so few that the pupils answer with great readiness and accuracy; and a correspondent of some local newspaper writes of the examination as "a grand success." The teacher who has accomplished so much is a fruitful source of conversation in the locality, and although his pupils be profoundly ignorant of the rudiments of an elementary education, and, many of them inwardly regard the whole examination as a fraud, expressions like the following are not infrequent: "We have

*Abstract of a paper read before the Waterloo Teachers' Association, by William Linton, Cedar Creek.

the right man for a teacher." "The scholars all like him." "I like to see him come round." "He has not whipped a scholar for eighteen months." "They must be getting along well for they answered everything asked at the last examination." "I wonder more did not pass the Inspector's examination." "Somehow he and the Inspector never get along well. That is the reason a greater number did not pass." The friendship of parents is obtained by such methods as those cited by not a few of the instructors of our youth; but I believe the number is decreasing and will continue to decrease with the elevation of the standard of the profession. It may be objected that I under-estimate the ability of the people in this country to judge of a teacher's honesty, capacity, and fitness for his position. Many, no doubt, are quite capable of telling the sterling teacher from the showy one, but a far greater number are a fair exemplification of Shakspeare's words,

"The world is still deceived by ornament."

If it be a necessity to success in our calling that we enjoy the friendship of the people around us, surely there is some other way to secure it than by the means I have described. I shall endeavour to point out briefly how I conceive we may reach the more excellent way, though, owing to the diversity among individuals and in communities, it is impossible to lay down a set of cast-iron rules that would suit in all cases. Even the old proverb, "When in Rome do as the Romans do," should be adhered to only so long as the true dignity and self-respect of the teacher can be maintained. Everything should be held subordinate, by the teacher, to the mental, moral, and physical training of his scholars. If he thinks a fair portion of visiting is necessary to become acquainted with the character of the people, to enlist their sympathies, to know something of the home-duties of his pupils, so that he may know to what extent home work may be assigned, by all means let him visit. When, however, a teacher finds the multiplicity of his visits is interfering with the preparation of his own

school work, or with his private reading, it is high time he should lessen the number, even though the good opinion of the people should be correspondingly alienated from him. Again, as some people cannot feel kindly towards a teacher who inflicts corporal punishment on any of their children, it should be administered with great discretion, and as a means of governing pupils, it should be resorted to but seldom. It is an antidote that may wisely be kept in reserve, to be used when milder measures have failed, but should then be employed regardless of how our name and fame may fare, or whose feelings may be wounded by the infliction. In the next place we need to have the respect of parents. In rural districts teachers are thought to be persons possessed of minds of wonderful capacity and culture. Many give them credit for being thoroughly conversant with past and current events whether political, historical, or ecclesiastical. This is not a disadvantage but a benefit; for it then becomes our duty, as it should be our aim, to be well informed on general subjects. Our minds should be stored with information, so that we may be fitted to instruct others who may have had fewer opportunities or who may not have improved those they had. The means available for general culture is simply illimitable. We have quarterlies, monthlies, weeklies and dailies, we have books on every conceivable theme, so that the blame of failure to win the respect of parents by not having a well-furnished mind, must rest largely with ourselves. If our usefulness in the community is thus made to extend beyond the routine of school work, we will be looked upon with greater respect than if we passed our spare moments in idleness or frivolity, not caring either to benefit others or ourselves. Intelligent people are proud of a well-informed teacher, and if his abilities and acquirements procure for him a prominent position in society, his influence will be greatly augmented and his opportunities as an educator immensely increased. The moral conduct of a teacher is watched with critical eyes by the parents, but with far keener and more

unerring scrutiny by the pupils. When it gives cause for suspicion the respect of the people is decreased. Our responsibility in this respect is perhaps greater than in any other, for the plastic condition of the youthful mind causes it to yield easily to influences, good or bad, brought to bear upon it. A celebrated infidel has said, "Give me the first ten years of child life and I will make the world infidels." The way we behave, the opinions we express, the advice we give, the promises we make and neglect to keep, the threats we advance and fail to fulfil, all are duly noted by the scholars, talked about at home, and freely discussed before the parents; and the conclusion too often hastily arrived at is that the teacher is unguarded and unreliable, and scarcely the right person to have the training of the young at the most critical period of their life. In order to have the respect of parents it is absolutely necessary that we have the confidence of the pupils, for the child frequently moulds and guides the parent's opinion in regard to his teacher. It is therefore worth our consideration how we may be best able to secure this. Our school work must be carefully prepared so that we may be enabled to make the exercises at once pleasant and profitable. Our enthusiasm in the work of the school-room becomes infectious, and the children soon learn to regard with affectionate confidence the source of so much mental enjoyment. Thorough earnestness in teaching, preceded by honest and conscientious preparation, will rouse the dullest pupils to see that we have their highest welfare at heart, and when they realize this the effect upon the school is most salutary. Another way to win the affections of pupils is to take part in their amusements. I am aware that many intelligent persons strongly object to this as leading to too much familiarity on the part of scholars. There is, no doubt, truth in the well-worn saying, "Familiarity breeds contempt," yet I hold that we may engage in children's sports to a limited extent and no injurious results follow, but on the contrary beneficial ones. We thus become more in-

timately acquainted with their dispositions, we secure their sympathy, their co-operation, and even their admiration; for the pupils are heard to whisper, "I like the master for he is such a fine fellow at play." We should, however, guard against losing either our dignity or influence by undue familiarity.

In conclusion let me say that of all professions none is so important as that of the public school teacher. The moulding of the character of this nation rests largely in our hands; if we act worthy of our vocation it will be well with us, and well for the destiny of our country; if our duties are badly performed it is impossible to estimate the enormity of the evil that may follow. If we allow our qualifications, our integrity, our general demeanour, to come up for adverse criticism at every fireside we can do but little. We need the support of the parents, we need their sympathy, we need their approval, we must have their hearty co-operation if we would be a power for good to their children. Let us meet with them as often as practicable to awaken them to a sense of the responsibility resting upon them in the education of their children. Let us often examine ourselves to see that we are rightly discharging the important duties in which we are engaged. Let us be true to ourselves and true to our profession, and though many discouragements and petty annoyances may cross our path, we will never lose sight of the "Delectable Mountains."

GEOGRAPHICAL NOTES.

DR. CARPENTER, in a late number of the *Nineteenth Century*, gives some interesting information respecting the "Challenger" expedition, in the shape of facts and reasonings based upon the results of his investigations. The ocean beds are found not to be of the irregular conformation hitherto supposed, but prove to be comparatively level, resembling, in fact, the North American prairies, or the South American pampas. The deepest sounding made was 4,475 fathoms, or more than five miles, which oc-

curs on the way from New Guinea to Japan. While the average height of land above sea-level is 1,000 feet, the average depth of the ocean-floor is 13,000 feet, and as the ratio of land surface to water surface is as four to eleven, the total volume of ocean water is thirty-six times that of land above the sea-level. The water is found to be shallow in the neighbourhood of all the continents, and the bottom sinks very gradually for a distance of a hundred miles or more; then there is a very abrupt descent from about 100 fathoms to abysmal depths, which continue uniform over considerable areas. The deposits from the disintegration of land-masses were only found in the shallows near the land, but there was an utter absence of them in the *bottom deposits* brought up from the mid ocean bed. Siliceous sand, for instance, was never found more than two or three hundred miles from land, the greatest distance being off the Sahara from which the sand had been *blown*, as was evidenced by the deposit of fine dust on the deck of the ship. The important conclusion Dr. Carpenter comes to, from a consideration of these facts, is, that there has been no change in the great ocean beds since the earliest geological time. That the shallow platforms adjoining the continents are part of these continents submerged, and not part of the ocean-floor proper. Professor Dana's theory that the present conformation of the land has been the result of consolidation of the earth's crust and subsequent shrinkage upon the gradually contracting mass within, receives confirmation from these facts. Indeed Dr. Carpenter is strongly of opinion that there has been comparatively little change, since the beginning of the Tertiary

period, at least, in the conformation of the earth's surface, so far as regards the relative positions of land and water. The deposits brought up from the bottom of the ocean were of considerable variety. Globigerina-ooze, identical with chalk in composition; volcanic clay; Diatom-ooze, resembling flint in composition; fossil remains of sharks' teeth and bones of whales, and low forms of animal life, were the chief. The bottom temperature was found to be in the neighbourhood of 32° Fahr., a result due to an underflow from the great mass of glacial water in the Antarctic basin. The heating influence of the sun's rays was found not to extend below 400 fathoms. The North Atlantic afforded an exception to this state of things, for the bottom temperature was found to be much higher, and this is attributed to a ridge that runs from Greenland to Iceland preventing a free interchange of the cold waters of the Arctic Ocean with those of the Atlantic, in the same manner as a mountain range serves as a barrier to currents of wind. Dr. Carpenter asserts that the effect of the Gulf Stream dies out in the mid-Atlantic, and that the amelioration of the climates of north-western Europe is due to a poleward movement of the upper warm stratum of the Atlantic waters to replace the southward flow of the undercurrent of Arctic water. While the icebergs of the North Atlantic are known to be broken portions of glaciers flowing down the valleys of Labrador and Greenland to the sea, those of the South Atlantic are parts of immense fields of ice, which vary from one to three or more miles long; they rise 200 feet above the surface of the water and sink 1,800 feet below it.

HIGH SCHOOL DEPARTMENT.

THE TEACHERS' CONVENTION.

As several very important subjects have been under discussion during the past few weeks, in connection with the interests of our High School system, it would be well for masters to give notice to Mr. Seath, Chairman of the High School Masters' section, of such as they may desire to bring before the notice of the section next August. Of one topic, the Status of our Collegiate Institutes, notice has already been given by Mr. Purslow, of Port Hope.

The interests of education are best served by a free and full ventilation of every question of importance, and we cannot too strongly impress on the masters the necessity of adding to the interest of their annual meetings by a well-arranged programme, and a well-digested presentation of each topic.

As it is possible that the question of superannuation will be dealt with at the next Session of the Local Legislature, we would suggest that in view of the increasing number of those who have selected High School teaching as a life-profession, some special measure in their behalf should be urged upon the notice of the Minister. Civil service employés have a scheme which might be adapted to the circumstances of our case; for the meagre pittance which awaits the declining years of the oldest veteran amongst us holds out little encouragement to a class who can save but little, even under the improved condition of matters during the last few years. We have no doubt that there are many members of the profession who would willingly contribute largely to a superannuation fund of the nature we refer to. Teachers are to some extent civil servants, and it is a well-known fact that in several respects the State keeps a watchful eye over them. Let the State go

further and adopt a scheme similar to that in operation in the Civil Service proper. High School Masters are better able to contribute to such a fund than their Public School brethren, and a larger yearly subscription should be followed by a larger retiring allowance.

THE UNIVERSITY AND THE HIGH SCHOOLS.

THE attention which is now being directed to the affairs of Toronto University cannot fail to affect our High Schools, which are now the mainstay of that institution. Indeed, some of the proposed changes, if carried out, will very seriously affect the condition of our secondary schools. The raising of the matriculation standard by dropping the Junior Matriculation Examination would have a very marked effect on our High Schools, and, although the discussion of this topic has not made much way as yet, it may not be out of place to sound a warning note. We shall briefly state what, to our mind, appears to be the advantages and disadvantages of the change proposed, and the consequent curtailment of the University course to three years:—

1. The character of High School education would be elevated, with a corresponding effect upon the status of the High School Master.
2. The University would be relieved of work which, it must be conceded, would be far better done in the High Schools than in the overcrowded first year classes of University College. The professional staff would be able to devote their energies to higher work with a more appreciative class of students in attendance.
3. The present endowment of the University could be utilized for the higher education

of students, and the claim for a larger fund, which is now set up, would in this way be satisfied to some extent.

4. Not only would a local means of higher culture be provided for those young men whose circumstances might not allow them to prosecute their studies at a distance from home, but the problem of higher female education, which is bound to come up before long, would be in a measure solved; for few young ladies would desire to proceed further than the present first examination. In a word the general status of secondary education would be greatly improved.

But, while all this is true, there is another side to the question:

Our High Schools and the energies of our High School Masters are at present over-taxed. The cost of these schools is in many localities becoming a very serious matter for the ratepayer to consider. It is true that, while the schools now cost far more than they did a few years ago, their value to the State has largely increased. But Boards of Trustees have viewed with alarm a scheme of distribution of the Legislative apportionment which, nominally invented to reward the deserving, has year after year only crippled their resources.

The unprofessional education of Second Class teachers has been thrown upon the High Schools, and not a cent has the State contributed out of its overflowing treasury to enable them to bear the increased cost of buildings, appurtenances, and staffs. Recent educational regulations have also saddled them with the non-professional training of First Class teachers; but there is no word of a larger grant for upper school work. Indeed, the amount distributed on this basis has become so ludicrously disproportionate to the requirements of the case that we would respectfully suggest to Mr. Crooks the propriety of dropping this altogether as an unnecessary detail. And if the first year's University course were omitted, there is not a High School in the Province but would feel the effects. Their students would remain with them a year longer, and a larger staff would need to be maintained. True, the work would be confined to the many highly-

educated Masters of our High Schools and Collegiate Institutes, and a zest would be given to their duties which the dull routine of a lower level of intellectual culture cannot afford; but is this a luxury in which we are justified in indulging? Is it fair to the schools on which the University now mainly depends to permit the continued existence of Upper Canada College, which has absorbed a large amount of the Grammar School Reserves as well as of the University Endowment proper, and to put upon them, with their slender resources, the work University College itself might do if it possessed its rightful inheritance?

In our humble opinion the utilization of our High School system has gone far enough. Let us stop at First Class teachers. We heartily hope that the University Endowment Fund may be put in such a condition that all its departments may be on the footing the intellectual advancement of the age demands; but it is too much to endow it practically at the expense of High School districts; for this is what the scheme means. If the Government is prepared to supplement for this purpose the present grant to High Schools no one could object, and it is only what we have a right to expect; but could they not as easily supplement the University Endowment Fund? They are just as likely, we imagine, to do the one as the other. It is true that there are a few Collegiate Institutes which now do First-Year and Senior Matriculation work. If they are able to do this, so much the better for them; but even they would object to have turned into a duty what is now a matter for the discretion of their Boards. The present arrangements of the University Course leave it optional with the student whether he enter at the Junior or Senior Matriculation Examination, and further than this it would not, we think, be wise to go. The time may come—and we hope will soon come—when our schools will be in a position to undertake this work, but in the meantime let them reach the point desired by gradual stages. We hope that the High School Masters of Ontario see the necessity for combined action on matters of so much

importance as this one we are discussing. Let them unitedly agitate for the demolition of Upper Canada College—a now effete class institution—and their success will solve the problem that the friends of the University

are now trying to solve. That there is a good prospect of this happening, the temper of the Local House renders probable; all that is needed is a little effort on the part of the friends of our national system of education.

CONTRIBUTORS' DEPARTMENT.

EDUCATION AND ITS MACHINERY IN ONTARIO.

To the Editor of the Educational Monthly.

SIR,—With your kind permission I would make a few remarks on an article on "Education and its Machinery in Ontario," by Mr. Donly, of Simcoe, published in your March number. In the first place I must deprecate the tone that pervades the greater part of it. Faults our system has, but criticism should be kindly, and remedies should be suggested, whereas the whole drift of the article is purely destructive. But to come to particulars. The assertion that the education of the masses is retrograding is directly opposed to the experience of all with whom I have ever had any conversation on the subject, and so far as my own experience of over twenty years as a teacher in various parts of the Province goes, the very reverse is the case. But the competency of the writer to pronounce on so complicated a subject may be seen from the way in which he handles statistics found on a single page of the Minister's Report. He asserts that there are now "37,000 persons who are eligible to teach." His figures, so far as they are real, are taken from page 143 of the Report for 1878, to which I would ask your readers to turn, where they will find that he has substituted the number of *applicants* (1871-8) for certificates for the number *who received* certificates, that is to say 33,250 for 13,941, an error of 19,309. But from the 13,941 we must deduct 9,270—the number of third-class certificates expired on or before 1879. This brings the number down to 4,671. To these it is

not fair to add all the teachers now employed, for, as the writer says, most of them are "young and inexperienced," and therefore licensed since 1871, but only the 470 holders of old county board certificates and an uncertain fraction of the 601 Normal School teachers employed in 1869 (many of whom have died or ceased teaching), and a portion of the 1,207 new certificates granted in 1879, some of them to persons already holding valid certificates of lower grade. But, adding every one of these (except, however, the 1,445 University graduates, as not enough of these *enter* the profession to balance even the duplicates above mentioned) we get less than 7,000, so that Mr. Donly's 37,000 must include 30,000 of Falstaff's "men in bucc'ram." This shews how accurately Mr. Donly states facts. As to average attendance, it has not fallen off, but increased from 41.9 per cent. in 1869 to 45.9 in 1878. I must, however, admit that the compulsory clauses should be either enforced or repealed. As to the inexperience of 67 per cent. of our public school teachers, let it be remembered that before 1871 the usual term of certificates was one year, not three; and that instead of a course of training like that given in what Mr. Donly contemptuously calls "teacher factories," not even a theoretical knowledge of educational principles or methods was required. In fact, the rawest teachers now-a-days possess information as to educational processes and ends that many of the "experienced" teachers of 1870 had not and were not likely to have were they to teach (?) till doomsday. The "revolutionary" Act of 1871 was

framed by the great founder of our system, and embodied the results of his long experience. It has placed in the hands of practical teachers the inspection of schools and the examinations for admission to what is *now* their profession. It has raised the average salaries of male teachers in counties and villages from \$264 in 1869, a year of inflation, to \$382 in 1878, a year of depression, and of female teachers from \$188 to \$247. It has done away with the antagonism between Grammar and Common schools and between Normal and County teachers, the result of the consequent unity among us being seen in the far greater weight the profession carries in the Legislature and the country at large. If this be revolution, it is one to be thankful for, and to be carried onward till all its aims are attained.

I am, sir, yours respectfully,

J. W. CONNOR.

Berlin, April 22nd, 1880.

THE AUTHOR OF LENNIE'S GRAMMAR.

SCHOOLMASTERS are seldom popular, and are nearly always misjudged. When a boy I had a great dread of one whom in after days I came to regard and admire. I resisted being entered at his school, and conquered by my tears. His discipline was peculiar and unique. If a class became negligent or uproarious he would bind its members together—boys and girls—with a rope, and whip them all round indiscriminately; if a lad were culpably inattentive he would tie up one of his legs, and make him stand on one foot for half-an-hour, or he would get him temporarily out of sight by hoisting him up to the ceiling in a basket, for which purpose rope and pulley were permanently provided. An irreclaimable dunce would be stimulated into energy by being crowned with a frowsy chocolate-coloured wig (at hand in the master's desk), and by being thus made the laughing-stock of the entire school. I had seen the rope and pulley, the basket and the wig, and

would have none of them. Thus it came about that I was deprived of the advantages of instruction by William Lennie, one of the ablest and most successful teachers of the English language in Scotland, for, despite the eccentricities of his modes of correction, his training of the youthful mind in spelling, syntax, and prosody, was so essentially practical, that I venture to think he turned out more clever boys from his "Academy" than any other teacher in town. *Lennie's Grammar* and *Lennie's Reader* became the text-books of schools, and may continue to be so, as far as I know, to the present day, for as guides to rudimentary knowledge they are perhaps unsurpassable in simplicity and perspicuity. But Lennie in school and Lennie in society were two different persons. Being one of my father's most intimate friends, we had frequent opportunities of seeing the social side of his character, for he stood upon small ceremony in his visits to us, merely inditing a little note upon the same evening to the effect that "he would look in about nine o'clock." On such occasions the household was radiant with delighted expectation, for he not only encouraged laughter by example, but rejoiced in creating it. The funny stories he told, the ludicrous illustrations by which he made obscure things plain, his homely wit and happy humour, raised all of us to a pitch of uncontrollable excitement, at which juncture he would calm the tumult by declaring for song or glee, which sobered excess, and brought each one of us to the front. I used at times to feel, on such nights, that I had done Lennie violent injustice by resisting the paternal intention of being entered at his school, but a vision of the tortures I had seen in the class-room would arise and pacify conscience. In after years I remember meeting Lennie upon an occasion when Professor Goodsir, Macculloch the Scottish academician, Bannatyne the poet, Stenhouse the lecturer, and others, were the guests of Bailie Ritchie, the proprietor of the *Scotsman* newspaper. Lennie was in great force, for in society his liveliness and repartee equalled his other acquisitions. During

conversation, one of the company made use of an expression of questionable grammatical accuracy. Lennie at once corrected the speaker. Our host apologetically remarking that the author of *Lennie's Grammar* would surely be accepted as an authority. Macculloch, who sat next to Lennie, but did not know him, turned round in vacant surprise, and exclaimed, "What! and are you *Lennie's Grammar*?" "No, sir," replied Lennie, "I am not *Lennie's Grammar*, but I am the author of that book." "Then," rejoined Macculloch, "I am indebted to you for many a good licking." "Not for any more, sir," said Lennie, "than I should fancy you deserved." The artist was discomfited, and the table was in a roar. Lennie eventually retired upon a moderate competency, purchased a small estate between Glasgow and Edinburgh, and became what is called "a gentleman farmer." One of his chief enjoyments thereafter was the entertaining at his country home of those of

his old pupils in whose career he took an interest. Meeting him one winter on his way by rail to his farm, he told me of a visit that had recently been paid him, under arrangement, by one of his former scholars, whom I knew, and whose regard for personal comfort, and dread of exposure to cold, had developed themselves almost into a weakness. "I met Tom at the station," said Lennie, "and as we walked along to my place I observed that he often paused and looked behind him. Involuntarily I did the same, and noticing a young man following us at a respectful distance I said, 'Tom, do you know that youth in the rear?' 'I do, sir,' said Tom; 'he is a friend of mine, whom I have ventured to bring along with me, that we might sleep together, the weather being so very cold.' Fancy," said Lennie, to me, "Tom bringing his own warming-pan with him! but we got on very well together, and they are both good fellows."—*G. F., in Manchester City News.*

THE HOLIDAYS—A CHILD'S LAY.

BY GEO. E. SHAW, B.A., TORONTO.

I'M glad vacation is so near,
I wish it came a month ago;
I wish it lasted half the year—
The weather is so hot, you know.

I'll put my books upon a shelf,
As high a one as I can see;
It long has been, I think myself,
Too hot to learn—... least for me.

My little head doth often ache,
I often sleep o'er some dry rule;
And Pa says that they didn't make
Him learn so many things at school.

As wise as Pa I ne'er shall be,
There is not much he doesn't know;
And yet, he says it's hard for me
To learn so, very much—and grow.

And Pa says, too, there's many a thing
That books—those weary books—can't
teach,

Without them robins learn to sing,
And the wild woods their wondrous
speech.

And Uncle says a simple flower,
That does not know its A B C,
Can teach professors by the hour—
I think he calls it—Botany.

That forest leaves make better books
Than ink and paper ever made,
They smile back knowledge to our looks,
And sigh it back when they do fade.

He says the woods are full of lore—
I know they let you freely shout;
You're not chained *there* from nine to four,
And chained again when school gets out.

I'm sure I'll study better when
The time for holidays is o'er,
When I take down my books again
And—long for holidays once more.

TEACHERS' ASSOCIATIONS.

CHRONICLE OF THE MONTH.

NORTH HASTINGS TEACHERS' ASSOCIATION.—This Association met in Madoc, on Thursday and Friday, May 13th and 14th. There was a good attendance of teachers, and the discussions were of the most practical nature, which could not fail to profit either those who listened or took part in them. Mr. Mackintosh, I.P.S., President, took the chair, and the minutes of last meeting were read and approved. A number of new books had been added to the Library, and in order to make it more useful to teachers at a distance it was resolved that a catalogue of the books and the amount of postage required for each should be printed and a copy given to each teacher. The subject of the educational periodicals was then taken up, and it was resolved that the teachers should pay \$1.25 for the CANADA EDUCATIONAL MONTHLY, the *Canada School Journal*, and membership fee, the rest of the money being paid from the Treasury. Mr. Shirk, H.M. Madoc M. S. then took up the subject of Geography, which he handled very ably, giving many practical hints as to the proper teaching of this important subject; a lively discussion followed in which Messrs. Mulloy, Burrowes, D. I. Johnston, J. Johnston and Mackintosh took part. Afternoon Session.—Mr. Burrowes, I.P.S., Lennox and Addington, gave some valuable hints to young teachers; under the heading of Order he laid down the principle that the secret of good order is to keep the pupils busy. Mr. Sutherland, H.M. Stirling School, then opened a discussion on written examinations, in which he was followed by Messrs. Skirk, Morton, Johnston, Burrowes, McPhie and Mackintosh. The unanimous feeling of the meeting being in favour of uniform promotion

examinations, a Committee was appointed to prepare sets of papers for the purpose. After a short intermission Miss McDermid read an essay on Geography to Second and Third Classes. The thanks of the Association were tendered her for her able essay. Mr. Mulloy was then called upon to introduce the subject of Literature in Public Schools, which he did in a scholarly essay. Owing to the lateness of the hour the discussion was postponed till the following day. On Thursday evening, after the question drawer had been opened, and queries answered, Prof. Wright, of Albert College, delivered an interesting and instructive lecture on History in Public Schools, in which, after shewing some mistaken ideas as to the meaning of History, he proceeded to explain how it should be taught that it might be remembered. A hearty vote of thanks was given Prof. Wright for his address. Friday morning, after a short discussion on Literature, the officers for the ensuing year were elected as follows:—President, Mr. Mackintosh; Vice-President, Mr. Shirk; Secretary-Treasurer, Miss Riddell; Librarian, Mr. Shirk; Councillors: Messrs. Sutherland, Shannon, Mulloy, Morton, Henderson, and Misses McDermid, Crepar, and Breeze. Delegate to Provincial Association, Mr. Sutherland. After an essay on School Management, by Miss Riddell, the subject of Health in Public Schools, was taken up by Dr. Dafoe. Some valuable hints were given on the way to ensure health to pupil and teacher. A vote of thanks was tendered Dr. Dafoe, and he was requested to allow the Association to publish his paper.—Mr. D. I. Johnston, Cobourg, then read an admirable paper on Teaching, for which he received the thanks of the Association. In the afternoon the

subject of Grammar was taken up, first by Miss Hornibrook, who read a well written essay on Grammar to Juniors; and afterwards by Mr. Johnston, I.P.S., South Hastings, who dealt with mistakes made in teaching Grammar to Fourth and Fifth Classes. Many mistakes were pointed out and the way to remedy them shewn. A vote of thanks was then given to the gentlemen who had so kindly contributed to the success of the Convention—namely, Messrs. Burrows, J. Johnston and D. I. Johnston.

The following resolution was passed during the Convention.

That, in the opinion of this Association, the Provincial Association should be constituted as follows:—

1st. Of Delegates elected by each local Association—one delegate being elected for every fifty paying members.

2nd. That in addition all persons engaged in any department of education should be eligible for membership.

3rd. That the right of discussion in the meetings of the Association should belong equally to *all* members.

4th. That to the delegated portion of the membership should alone belong the right of voting in the meetings of the Association.

JESSIE RIDDELL,
Secretary.

WENTWORTH TEACHERS' ASSOCIATION.

—The regular semi-annual meeting of the Wentworth Teachers' Association was opened at the Collegiate Institute, Hamilton, on the 14th of May. The principal business transacted was some matters which had been left over from the last meeting. A large number of teachers were in attendance. Mr. David Bell, of Beverley, and Mr. George Dickson, M.A., Hamilton, were appointed representatives to the Provincial Association.

The following resolution, adopted by the West Bruce Teachers' Association at their last meeting, was then taken up and discussed by Messrs. R. E. Moore, R. Husworth and R. Fletcher:

"Whereas in the opinion of this Association the interests of education would be

better served and greater justice done to the teaching profession were teachers allowed to retire on a pension before they shall have reached the age of sixty years;

"*Resolved*, that the School Act be so amended that teachers may have the privilege of retiring on a pension when they shall have taught twenty-five years."

Moved by Mr. R. E. Moore, seconded by Mr. Smith, That teachers be allowed to retire after teaching thirty years.

Moved in amendment by Mr. P. Smith, seconded by Mr. D. Bell, Rockton, That teachers be allowed to retire on a pension after having taught for twenty-five years.

The amendment was carried. It was then moved by R. E. Moore, seconded by R. Fletcher, That the CANADA EDUCATIONAL MONTHLY (yearly subscription \$1) and the *School Magazine* (yearly subscription 50c.) be furnished to the members of the Association at the reduced rate of seventy and thirty cents per annum, respectively, the balance of the subscription to be paid out of the funds of the Association. After an animated discussion, the motion was carried.

The election of officers for the ensuing year then took place, the following gentlemen being chosen: President, W. H. Ballard, M.A.; Vice-President, Geo. Dickson, M.A.; Secretary, C. J. Atkinson; Treasurer, J. H. Smith, P.S.I.

The question drawer was then considered. In the absence of Mr. T. C. L. Armstrong, Mr. Robertson kindly consented to answer the questions in English, which he did in a very satisfactory manner.

The questions in the mathematical department were answered by Mr. W. H. Ballard in his usual clear, concise style.

The manner of beginning the teaching of arithmetic was next fully and ably considered and explained by Mr. G. W. Johnson, after which the Secretary introduced Mr. J. M. Buchan, who delivered an interesting address on the method of teaching English grammar and literature.

The Association again met on Saturday, the chair being occupied by Mr. W. H. Ballard, M.A. Mr. R. Stilwell gave an

address on Penmanship, accompanied by illustrations on the blackboard.

Dr. Hare followed with a highly instructive discourse on the Formation of Mountains.

Mr. John Herald, M.A., read an essay on School Amusements. He thought the teacher should join with the pupils, as it would have a beneficial influence on their moral conduct. He was in favour of cricket in the play-ground and other exhilarating games. Mr. Sheppard moved a vote of thanks to Mr. Herald for his excellent paper. He thought, however, that military drill was more beneficial than cricket. Mr. J. H. Smith seconded the motion, which was carried unanimously.

Votes of thanks were also passed to Mr. Stilwell and Dr. Hare. A discussion arose as to whether the fee of 50 cents for membership should be continued, when Mr. Morton moved, seconded by Mr. Fletcher, that it be abolished. The motion was lost.

This concluded the business, and the meeting adjourned at 12.30.

COUNTY OF ONTARIO TEACHERS' ASSOCIATION.—The first semi-annual meeting of the Association for this year was held in the High School building, Oshawa, on Friday and Saturday, the 21st and 22nd of May. Mr James McBrien, County Inspector and President, occupied the chair.

The proceedings were opened by Miss Henderson, Oshawa, who read a brilliant and practical essay on "How to make School Attractive," which elicited much and well-merited applause. Apart from, or rather in addition to, the sentiments of the essay, the almost faultless elocution of the essayist gave evidence of her own eminent fitness for making school attractive.

Mr. Langdon, Prince Albert, then took up "Elementary Grammar," and lucidly explained his mode of instruction. It was quite evident from his well-digested remarks that he had given thoughtful consideration to the subject.

In the afternoon the general business of the Association was first taken up. Messrs.

Langdon and Jennings were appointed auditors for the present year, and Messrs. Robinson and Jennings delegates to the Provincial Association. Whitby was selected as the next place of meeting, after which Mr. H. E. Webster, Audley, read a comprehensive and well-prepared paper on "Physical Geography." Though, comparatively speaking, a young teacher, he evinced much ability in the treatment of the subject, and by his copious illustrations gave many admirable hints as to how it should be taught.

Mr. McBride, Port Perry, in a few well chosen words stated his views on "The relation of the State to the School." This topic provoked an animated discussion, but the introducer's remarks were endorsed.

In the evening Mr. Kirkland, Science Master, Normal School, Toronto, gave a lecture in the Town Hall, on "The Chemistry of Artificial Light," with experiments. Owing to the unfavourableness of the weather, there was not so large an audience as was anticipated, but those present were more than delighted with the many experiments which, in themselves, were sources of interest and instruction.

On resuming work Saturday morning Mr. Fletcher, Oshawa, dealt with School Holidays and Hours, and gave unmistakable proofs that the school hours in most of schools are at present too long, especially for younger pupils. He considered the holidays quite long enough. A few dissented from his views, but in general they were sustained.

Mr. Henderson, Brooklin, followed with the teaching of "Vulgar Fractions," and by means of objects and diagrams very fully and intelligently set forth his method of teaching the subject, which was applauded.

The subject of "Composition" was then taken up by Mr. Tamblin, Oshawa, who, in an address both humorous and instructive, pointed out its importance as compared with other subjects, the evil results of neglect in not teaching it, and also enumerated the different steps in preparing pupils for its higher stages.

It was found necessary in the afternoon to defer Mr. Philips' paper on "Quadratic

Equations" until the next meeting. Mr. Kirkland, in his usual practical way, afterwards proceeded to explain by experiments, many of the phenomena of "Heat" in relation to common things. His remarks and experiments were exceedingly interesting and received marked attention.

During the different sessions, brief addresses were made by Dr. Rae, Mayor of Oshawa, Drs. Coburn and McBrien, and Messrs. Larke, McGee and Annis.

NORTH YORK TEACHERS' ASSOCIATION.

—The half-yearly meeting of the above Association was held in the Newmarket Public School Room, on Friday and Saturday, the 21st and 22nd May. The meeting opened at ten o'clock, President in the chair. After devotional exercises and reading minutes, Mr. Fotheringham, the Inspector, moved that the professional library be kept in Newmarket, and that a central Librarian be appointed. The motion was carried. A committee was appointed to nominate officers, which reported as follows:—President, D. Fotheringham; Vice-President, Geo. Rose; Secretary-Treasurer, S. E. Jewitt; Librarian, W. Rannie; Executive Committee, Messrs. W. Rannie, M. Vandewater, H. Irwin, Samuel Holland, —McMurchie. Mr. Rannie introduced a resolution for making the Provincial Association representative. It was carried, and a committee was appointed to suggest the best means of representation. It reported on Saturday, recommending that each local association send six delegates, to be chosen irrespective of their position. Mr. Rose spoke of "Difficulties of Management, and how to overcome them," causing a lively discussion. In the afternoon an object lesson was given by Miss McMurchie, who was followed by Mr. Peter McMurchie on the teaching of Analysis. Mr. Fotheringham spoke of Uniform Promotion Examinations. The principle was approved of by the Association.

In the evening Mr. Herbert Irwin read an essay on the "Duties of the teacher outside the class"; and was followed by Mr. W. F. Moore, of Nobleton, in a short practical essay on Cleanliness, Order, etc., in the school. Mr. Scott, of the Provincial Model School, gave an interesting address on the teaching of Composition, and on Saturday morning followed it up with the teaching of Drawing, and "How to deal with Indolent Pupils." Mr. Scott's addresses were practical and suitable to the wants of the teacher.

THE TEACHERS' ASSOCIATION OF THE FIRST DIVISION, COUNTY OF WELLINGTON AND GUELPH CITY, met in the High School, Guelph, on the 14th and 15th May, Mr. David Boyle, President, in the chair. After some formal business, the following papers were read:—"Our own Blunders," by the President; "Composition," Wm. Tytler, B.A.; "Unsolved Problems in Education," Mr. D. McCaig, I.P.S.; "Then and Now," Col. Clarke, M.P.P.; and "The Duty of the Hour," Geo. W. Field, B.A.

THE NORTH WELLINGTON TEACHERS' ASSOCIATION held its semi-annual meeting at Mount Forest, on the 21st and 22nd May. Mr. Joseph Reid, B.A., President, in the chair. The subjects discussed were the following:—"Written Examinations," Mr. W. F. McKenzie; "Physical Education," Mr. G. B. Bingham; "Natural Philosophy," Mr. Wm. O'Connor, M.A., Harriston; "Gray's Elegy" an analysis, Mr. A. M. Shields, B.A., Mount Forest; "Some Changes in School Law," Mr. J. H. Burk, Minto; "Analysis," the President.

THE BRANT COUNTY TEACHERS' INSTITUTE will hold its semi-annual meeting at Brantford, on the 4th and 5th of June, Mr. M. J. Kelly, LL.B., presiding.

CONTEMPORARY LITERATURE.

A HAND-BOOK OF ALGEBRA FOR TEACHERS, by James McLellan LL.D., Inspector of High Schools, Toronto. Toronto: W. J. Gage & Co., 1880.

WE frankly avow that we assumed the task of reviewing this new work of Mr. Inspector McLellan's with a prejudice—primarily, because we hold decided opinions as to the impropriety of School Inspectors entering the lists of authorship while holding their official position, and in the second place, because we had reason to fear that its industrious but unabashed author came to his task ill-equipped, in a literary point of view, for undertaking the responsible work of preparing anything in the way of an educational text-book. In regard to the first point we feel strongly, because the work in which Dr. McLellan and his friends are engaged contributes to an illegal and contraband trade, inexplicably winked at by the Minister at the head of the Department, and which meets with success only through the sinister influences of an Inspector's prostituted position. Unconnected in any way with the Education Office, and divested of the power and influence of his official position, Dr. McLellan may write or compile all the text-books he and his publishers may have a mind to pour from the press. But to allow an officer of the Department, who practically is at its head,—who is not only Senior Inspector and a Member of the Central Committee, but is also an examiner, and the functionary who sets the papers for examination in his department—to publish and circulate a text-book of his own in the schools, and to use his influence, directly by official contact with masters, and by lectures at Teachers' Institutes, to get his unauthorized manual introduced, is in the last degree improper, and fraught with the most serious consequences to education and to

morality. In extenuation of Dr. McLellan's action in publishing this and previous manuals, it is claimed that they have been prepared in the sole interest of the teacher, and therefore are properly independent of the Minister's approval or disapproval of their use. Even if this plea could be truthfully advanced, it would still be an unseemly thing that one who bears the relation that Dr. McLellan bears to the High School teachers, and who practically has their schools at his mercy, should have it in his power to place masters in the equivocal and humiliating position of making use of his text book (with its accompanying key) to their professional well-being, or of rejecting it at the peril of their personal interests. But such a plea is wholly invalid when we know that this is not the limit intended by the author to be placed upon the circulation of his book. The author's preface to the key referred to shews this conclusively. As a fact we also know that it is not the limit practically placed upon the book—for in many of the schools the work has already found its way as a class-book into the hands of pupils whose masters, with a time-serving eye to the main chance, though perhaps excusable under the circumstances, have ordered its use. On the score of expense to the pupil, what the Minister of Education has to say to the wholesale introduction into the schools of this book without his sanction, and at a cost to each scholar of \$2.75, with a like additional outlay in prospective on the appearance of the author's second part and key! we should be curious to know. Such a do-as-you-please policy on the part of the Inspectorate only too painfully manifests a surprisingly lax administration at the Education Office, and strikingly indicates how complete is the control of the irresponsible

Central Committee of its affairs. It also shews, we regret to say, how little Canadian Literature has to hope from a Minister of Education who tolerates as his official advisers men who disgrace the Department by systematically violating its law;—who force their ill-adapted and often-times plundered compilations on the unfortunate teachers over whom they tyrannize; whose bad English, whose inaccurate grammar, whose ludicrous incompetence in all that relates to literary work, prove only too clearly that the existence of a Ministry of Education which tolerates and patronizes them is as dire a disgrace to the country's literature as it is a waste of the country's money!

Having written at such length with regard to the impropriety of the use of this book in the schools of the Province, while its author continues to hold his present relations towards them, we have left ourselves but little space to speak in detail of the objectionable character of the work as a text-book in Elementary Algebra. Indeed, to publish this work professedly as a text-book on *Elementary Algebra*, is to convince any one that its author has neither the wit to discern what is required in the preparation of a suitable manual on the subject, nor the judicious mind so essential to the discreet performance of the functions of an Inspector. The most cursory glance at the book shews that there has been a total lack of judgment in its preparation. One need not go further than the earlier portions of the work, to see that this is the case. Here, the bulk of the matter comprises theorems without proof, taken from treatises on the theory of Equations, required only in the second year work of the University course for honours. What little there is of practical value in this part of the book, might, with more advantage, have been put into a tenth of the space. Elsewhere we notice the same lack of judgment, and the ever-cropping-up evidence of crude ideas and incompetent authorship. The proof-reading of the book, we need hardly say, is of a piece with its general character. In the key, particularly, mistakes literally occur by the dozens. Its

author has attempted to note and correct a few of these, but only to make his work here again ludicrous. Glancing over his "pet" chapter on factoring, in the key, we find the following mistakes unnoted, besides a host of others scattered over the book, to the discredit of both author and publishers:

- Page 53, Exercise XXIV., Question 9—
Index wrong.
- Page 54, Question 10—
Sign of Equality omitted.
- Page 54, Question 14—
Index placed wrongly.
- Page 54, Question 19—
Figure 2 omitted before last term.
- Page 56, Questions 1, 2, 4, 5 and 11—
All wrong.
- Page 57, Question 8—
Index wrong.
- Page 58, Question 1—
Letter instead of figure.
- Page 59, Question 5—
Index and Co-efficient omitted.
- Page 60, Question 8—
Totally wrong.
- Page 60, Questions 9, 12, 14, 15 and 1—
All wrong.
- Page 61, Question 9—
Last part.

The little there is of English, in "Hand-book" and "key," is of that choice character with which our Author-Inspectors have made us familiar, and which is rapidly bringing the Educational literature of the Province into merited contempt.

LOCKE'S THOUGHTS CONCERNING EDUCATION. With Introduction and Notes by the Rev. R. H. Quick, M.A. Cambridge: Deighton, Bell & Co. New York: Macmillan & Co. Toronto: Willing & Williamson.

JOHN LOCKE, in the seventeenth century, began the line of English philosophers to which belong the greatest names of our own time—John Stuart Mill and Herbert

Spencer. But, like the last-named illustrious thinker, Locke's intellect, as well as the system in which it found expression, was many-sided. To him we owe the beginning of scientific political economy, and in the work before us, the first formal treatise on Education. This beautiful edition of Locke on Education has special interest just now, when so much attention is given to Herbert Spencer's invaluable treatise on the same subject, lately reviewed in our columns. A good biography of the philosopher is prefixed to the reprint of Locke's book. It is, perhaps, a little wanting in sympathy, but it is true that Locke's character, like that of his contemporary and friend, Sir Isaac Newton, was essentially cold and unmagnetic. His father was the ruling influence of his childhood; of his mother little mention is made. He never married. The references to feminine influence in this book are scanty, and as sarcastic as could be expected from a writer with so little sense of humour. For instance, in giving advice "Concerning Sweet-meats of all Kinds," advice which we earnestly desire to impress on all parents who may read this article. In giving this invaluable counsel, he adds a rather spiteful sentence about "the ladies:" "Sweet-meats of all kinds are to be avoided. This I am sure is one of the most inconvenient Ways of Expense that Vanity hath yet found out, *and so I leave them to the Ladies.*" This homeopathic doctrine of "Sweets to the sweet" might have been expressed in a more complimentary manner.

John Locke belonged to that middle class which was the strength of Puritanism. He was born early in the seventeenth century, and died in the first years of the eighteenth. He was educated at Westminster School, and was a boy of seventeen when the crowd, reaching to the gateway of that school, surged beneath the scaffold where the Stuart tyranny fell beneath the axe of the law. The Puritan stamp remained on Locke's character, but it was the Puritanism of Milton's later days, of Taylor and Chillingworth's appeal to reason as supreme over dogma and text. His school days were not happy.

Serious, uncompanionable, as Mr. Quick says, like Cowper at the same school a century later, he was not popular. Perhaps the lack of passion, of susceptibility to love, repelled as it is apt to do the sympathy of boys. Hence in this book Locke is against public schools as nurseries of vice; he advises a private tutor, and a system of segregation, the fallacy of which is well exposed by the editor of this work. His experience of Christ Church, Oxford, was not more happy. The college life was then a sort of monastic Puritanism. "Locke had to be in chapel at five a.m., when, besides the prayers, *there was often a sermon!* With an interval for breakfast his time was then taken up till mid-day dinner with attendance at the lectures of the professors, or preparation for these lectures with the college tutor. At dinner no language might be spoken but Greek or Latin. In the afternoon came another public lecture. In the evening he had again to attend chapel, and afterwards to go to his tutor's room for private prayer, and to give an account of his day's occupations." Choosing the medical profession he became attached to the fortunes of the Earl of Shaftesbury, by whom, and his son and grandson, Locke was much beloved. He was an exile under the third Stuart tyranny, but returned with Mary II. He held lucrative place in the public service, and died in 1704.

Locke's noble plea for Toleration and Free Thought will always be remembered, but we think his Essay on the Human Understanding will be most read,—not for its style, which is meagre and unattractive,—not for its thought, which is often obscure, but for the place it holds in the historical development of Metaphysics. The present work will well repay perusal. It is singularly practical, and in some important points anticipates the doctrines, not only of Rousseau, whose *Emile* seems founded on it, and of Cowper's *Tyrociniium*, but of Herbert Spencer, to whose graphic and forcible style the quaintness of the seventeenth century philosopher is a curious contrast.

—G. P. M.

MANUAL OF DRILL AND CALISTHENICS, by J. Laughlin Hughes, Inspector of Public Schools, Toronto, etc. Toronto: W. J. Gage & Co., 1879.

A SOMEWHAT profane but very true addition to the eight Beatitudes, is that which declares "Blessed are they that expect nothing, for they shall not be disappointed." From past experience of the manuals written in the interest of a bookselling ring in Toronto, we did not expect much from this manual by Mr. J. L. Hughes, and we certainly are not disappointed. Mr. Hughes is a School Inspector in Toronto, and a member of the Central Committee. In this dual official capacity, we regard his publishing a manual as most objectionable. It is another instance of the very worst evil connected with the Department for which Mr. Crooks is responsible. But, as in the case of Mr. High School Inspector McLellan, so in the case of Mr. Public School Inspector J. L. Hughes, the literary work is of the worst possible kind. The book is in every sense of the word a disgrace to the "author" and the Department which tolerates such productions in the interests of education in Ontario. It is a capital instance of Macaulay's definition of a "bad book," for it is badly written, badly spelt, badly printed, badly bound, and we may add badly pirated. In all this it corresponds with the other "manuals" got up by these industrious School Inspectors and their friends. They are all bad books, in accordance with the above definition; and under the ridiculous assumption of *authorship*, by the compiler whose name is paraded on the title page, there is the same indifference to *meum* and *tuum*.—for Mr. J. L. Hughes' "Manual" is taken almost bodily from the Government drill-book without a hint of acknowledgment. We said the piracy is badly done, for the culprit has once or twice omitted to change the word "recruit" in the drill-book, into "pupil" in the school manual. The book is full of such solecisms as work "*continued too continuously*;" the spelling and grammar are of the craziest: there is also an absurd assumption of importance, strongly suggestive of the

"cad," in the directions for saluting in school,—the word *Trustee* is spelt with a small "t," while the initial of the all-important word *Inspector* is duly capitalized. The book is full of mistakes that would make it amusing enough, were it only to have a laugh at such expressions as "How can pupils best *stand* when *seated* at desks?" were it not for the sorrowful consideration that the City of Toronto pays a good salary to the writer of these disgraceful blunders, and the country pays a larger one to the Minister of Education who tolerates such men as School Inspectors. These "manuals" may serve a purpose at some future time when we get a change for the better in the administration of the Department: it may then be a useful exercise for young children to point out some of the errors and correct the spelling of our present School Inspectors and Members of the Central Committee. Let the following specimens of the bad grammar, the involved sentences, and the stupid repetitions, which justify the strong language which truth and the interests of education compel us to employ with reference to this work, attest the necessity for the exercise of competent criticism in repressing such manuals. We cull at random,—the italics being ours. In the preface, signed "The Author," are the following choice *morceaux*:

"If the instructions given in the first chapter *are* (?) carefully followed, regular (?) teachers interested in *these subjects* will be sure to succeed in teaching them. They would, of course, be greatly benefitted (*sic*) by special instruction *in these subjects*." There is plenty, of course, of penny-a-liner's English. Here is a specimen: "Teachers are 'educators,' and pupils are 'the little beings entrusted to their care.'" We also read of the "physical, as well as the mental, *natures* (*sic*) of children," as if the "little beings," etc., could have two "natures." At page 3 we read *the author's* views of Physiology, which are certainly more original than anything else in his book. "Studying too constantly draws the blood *from the extremities* of the body to the brain," (why only from the extremities?) "*and also con-*

centrates the nervous energy at the nerve centres." On the same page occurs the solecism already referred to: "intellectual employments are continued too long and continuously." At page 5, when speaking of "a whole class," we are told that "one minute devoted to singing and exercise will oil and wind up the machine, so that it will run itself for another half hour." At page 6 occurs this model sentence of a model Inspector: "Many teachers teach every subject."

Such is this wretched thing, a type of its class. Its literary style reminds us of what the Hatter said to the March Hare in "Alice in Wonderland"—"the words that person said were certainly English—but they had not the slightest meaning or connection." To review such a work is only to waste one's time, and to break on the wheel—well, not exactly a butterfly. In these "evil days" of our Ontario Educational system, the necessity unhappily exists, however, to expose such representative specimens of its literature, and again and again to direct Mr. Crooks' attention to them.

AMNER'S MODEL SOLUTIONS IN ARITHMETIC, by Joseph Wollman;
DEDUCTIONS FROM EUCLID AND HOW TO WORK THEM, by E. H. Mathews.
London: J. T. Amner; Toronto: Copp, Clark & Co.

THESE books contain the solutions of

questions or propositions set in Arithmetic, Algebra, and Euclid at the examinations for Teachers' Certificates, Queen's Scholarships, etc., in England. The solutions are given in full, just as the candidate (it is supposed) would send them in, from his desk in the examination-room, to the examiner. The object is to show candidates, and all others interested, how work of this description can best be done by having placed before them examples well and neatly worked out. Many in Canada will remember the exact care which they were required by their masters to bestow on their ciphering books, at a time as yet not so very remote. And to-day the result of this painstaking is to be seen in many accounts, ledgers, etc., being set forth orderly and in a business-like manner; figures neatly made, and hand-writing legible and unostentatious.

In looking through these books, our attention was arrested, as it has been often before, by noting the contrast between the style of questions proposed in the mother country at teachers' examinations for certificates and that which obtains in our own Province. In Britain the questions are characterized by sobriety, simplicity, and usefulness; here, on the contrary, the questions are almost invariably catchy, ambitious, and unpractical. A change for the better in this respect is very much needed. We can commend the books to the favourable attention of our readers.

THE new volume on Cowper, which Prof. Goldwin Smith has written for Mr. Morley's Series of English Men of Letters, comes *apropos* just now to English masters, who have in view the consideration of the facts of Cowper's life, and a critical study of his writings, preparatory to taking up *The Task*, as the subject in English for University work in 1882. Its critical estimate of Cowper is alike appreciative and discriminating, as was to be expected from a writer of Mr. Goldwin Smith's judicial competence and rare literary ability.

MANY of our readers will be glad to know that there is now a "Humboldt Library," comprising popular expositions of science, by the foremost writers of the time, the issues in which can be had from 15 to 20 cents each. The early numbers of the series embrace works by Huxley, Tyndall, Herbert Spencer and other scientists and philosophical writers. In this series, for twenty cents, teachers may obtain Mr. Herbert Spencer's priceless work on the "First Principles of Education, Intellectual and Moral!"

EDITORIAL NOTES.

EDUCATIONAL LITERATURE AND DEPARTMENTAL REFORM.

THE readers of THE CANADA EDUCATIONAL MONTHLY, no less than the contributors to its pages, will be grateful to the writer of the appreciative and sympathetic review of our first year's volume which appears in the present issue, from the June number of the *Canadian Monthly*, under the title of "The Literature of Education in Canada." Our own feeling of gratitude, we should here first frankly admit, was not a little tempered by embarrassment in having presented to us for publication in one magazine under our editorial care, a critical review of a year's work in another, for which we were also responsible; but we were soon reconciled to the seeming impropriety of this when we reflected upon the fact that the success of the present magazine was mainly owing to the amount and character of the aid which we had received outside of our office in establishing THE MONTHLY, and in maintaining it through a twelvemonth's career, and not upon the humble work we had ourselves done for the publication. In this view, it seemed to the present writer that any compliment he could be the means of paying to those associated with him in his enterprise, and to such of the profession as had kindly contributed to the pages of his magazine, it was seemly for him to pay. The only question that then pressed itself was, whether he should permit reference to be made to his own share in the work of the volume reviewed; and in deciding to allow what had been written to stand, he was actuated by the conviction that had he expunged it, the opportunity would have been lost to reach the public ear with a criticism of abuses, connected with the administration of the educational affairs of the Province,

which he and the writer of the paper felt was most important to have published. With this personal explanation over, we can ourselves join in the expression of thanks for the kindly service "An Old Headmaster" has done to this magazine in bringing its work and its aims before the general reading public of Canada, and for the hearty and intelligent interest he manifests in Canadian education and literature, in preparing so admirable an analysis of the first year's round of contributions to THE CANADA EDUCATIONAL MONTHLY which we have transferred to our present pages. The satisfaction with which our readers will peruse the critique will, we doubt not, be enhanced by noting how thorough is the writer's grasp of educational questions, how keenly he sympathizes with the profession of the Province in their effort to relieve themselves of the incompetence of the Central Committee, and the arrogant assumptions of the Senior Inspector, and how honest is his denunciation of bookselling rings and literature-degrading authorship. The vigorous manner in which these abuses are dealt with, as well as the publicity given to them, is encouraging to those who have long fought against them, and to the large and increasing number in the profession who earnestly are seeking for their redress and will not be satisfied until the remedies are applied. For the good repute of our educational system, for the well-being of the profession, for the prosperity of the schools, and for the honour and wholesomeness of our native educational literature, Mr. Crooks will do well to give his instant, his serious, and if need be, his prolonged attention to the matters urgently claiming reform which are again brought before him, and to deal with them as becomes one in whom the people have reposed a responsible, a sacred trust.

THE PRESIDENCY OF TORONTO UNIVERSITY.

THE vacant Presidency of our national University still remains unfilled, though the Minister of Education has returned from his second visit to England in search of a head for the College. It would be unjust to Mr. Crooks to doubt his sincere and well-meaning interest in the affairs of the University, but it cannot but be prejudicial to the institution to leave it so long without a presiding officer. If it is so difficult, as it would seem to be, to import a first-class man from England for the position, with so little to tempt a newcomer in the way of salary, why not make a selection from the available native material we possess, and install the choice of the Cabinet as speedily and graciously as possible. Six months ago, in our columns, we urged this course, and reminded the Ministry of the paramount claims of the Professor of English Literature in the College to the position—the appointment to which we felt sure would be most gratifying to the graduates and friends of the institution. As a well-earned compliment to Dr. Wilson, after lengthened and distinguished service in the University, we trust that his appointment to its head may yet be determined upon.

THE LITHOGRAM OR SCRIPTOGRAPH.

SEVERAL correspondents having asked us for a receipt for manufacturing a copying apparatus or SCRIPTOGRAPH, we subjoin two; the first has been kindly supplied to us by Mr. Heys, Analytical Chemist of this city, and the second we have taken from the *Schoolmaster* of London, England.

FIRST RECIPE.

1. Cover 1 oz. of Cooper's or other gelatine with water, and allow it to stand for twelve hours, then pour off the excess of water, and add to the moistened gelatine 6 oz. by measure, or $7\frac{1}{2}$ oz. by weight of Price's pure glycerine. Heat the whole in a water bath, as you would common glue, for two or three hours, to drive off the water absorbed by the gelatine; you will then have a transparent solution. Filter through fine muslin into

the case, and be sure to avoid air bubbles or any unevenness of the surface. If the pad is desired to be kept for any length of time add 1 or 2 drops of carbolic acid to prevent change. Allow the pad to stand twenty-four hours in a cool place: it is then ready for use. When you are going to use it moisten the surface slightly with a sponge dipped in clear water.

Owing to the difficulty of getting the proper quality of aniline violet to make the ink with, it is safer to purchase it. E. B. Shuttleworth, manufacturing chemist, 53 Front Street East, Toronto, makes it, and we have no doubt will forward it to any address.

SECOND RECIPE.

2. *Materials for making the Pad.*—1 oz. gelatine, 6 oz. glycerine (common), 1 oz. lump sugar, 4 oz. water, $2\frac{1}{2}$ oz. barium sulphate. Heat the gelatine, water, and sugar in a water bath, well stir the barium sulphate with the glycerine, and incorporate all together. Pour into a tin mould, 11 in. by $7\frac{1}{2}$ in. by $\frac{3}{4}$ in. deep. To make the ink, rub up the solid aniline violet with gum water, and thin with methylated spirit until it flows freely from the pen. *To use the apparatus.*—Write on any paper; when dry, place face downwards on the pad; allow to remain about a minute; then peel the paper off. Then lay on the slab unglazed paper, and smooth with fingers. Fifty to one hundred copies may be taken. When sufficient copies are taken, remove the writing with a wet sponge. When the pad becomes deteriorated, re-melt it. *Additional Notes.*—The pad should remain twelve hours after being made before being used, and before being used should be sponged. The mixture should be strained through muslin to remove lumps of barium sulphate. Care should be taken to avoid bubbles, which would cause an uneven surface. If the writing is difficult to remove from the pad, hot water may be used, though this causes the pad to wear away faster. It is not necessary to remove all traces of the writing, as they will diffuse themselves in the course of some hours on the slab. If the original writing still shows a metallic lustre, it may be used to give another negative for printing from.

CANADIAN periodicals and Canadian literary talent are now commanding some fair measure of recognition in England. Though not a matter to whine about if denied us, and still less a thing to be cheekily won, it nevertheless is gratifying when it is appreciatively and spontaneously offered. Many

complimentary references have recently been made in English journals to *The Bystander* and *The Canadian Monthly*, while the present magazine has had the honour of having frequent selections from its pages reproduced in English Educational contemporaries. Similar compliments have been made of late to our literary men. Two instances, we may cite, have in the past week come to our notice, in the shape of letters from prominent authors in England one from Mr. Herbert Spencer to Mr. W. D. LeSueur, B.A., of Ottawa, warmly eulogizing that writer's article in a recent number of *The Canadian Monthly*, on "Mr. Spencer and his Critics;" and the other from Mr. Matthew Arnold to the Rev. C. Pelham Mulvany, M.A., of Toronto, commending in high terms the latter gentleman's contribution to our pages, in the volume for last year, on "Virgil for English Students." Canadian literary work, we see, will not fail of recognition, when it deserves it.

WE would direct the attention of teachers to the announcement in our advertising pages of the completion of Dr. Ross' "Illustrated Globe Encyclopædia," issued in Edinburgh, in twelve compact quarto volumes, and containing a perfect library of information, of well-attested accuracy, on almost every topic likely to engage the attention of the profession. We speak from an extended experience of books of this character, and with no indifferent idea of what is wanted in a repertory of "universal information," and can conscientiously say that the "Globe Encyclopædia" will be found to give the most ample satisfaction to any one investing the price of the work in its purchase. To those who want an intelligent and skilful condensation of the lore of the age on most subjects of general reference, and upon which one can rely for accuracy in the statement of fact, as well as for brevity and lucidity of expression, we can confidently commend Dr. Ross' generous volumes. The work will prove itself a mine of intellectual wealth to every student of its pages, and there should be few School Libraries in the coun-

try without a copy within handy and inviting reach of every worker in the schoolroom.

WE have already commended in these pages *The Boy's Own Paper*, a serial publication re issued in Canada by Mr. Warwick of Toronto, from the English plates brought out by the Religious Tract Society of London. We have now from the same source an admirable companion to that monthly, entitled *The Girl's Own Paper*, containing a variety of wholesome and attractive reading matter, interspersed with excellent illustrations for the young-ladyhood of the time. The new applicant for popular favour should meet with it in abundant measure, as it supplies just that kind and character of recreative reading for young girls, which parents and guardians can safely and, we may add, profitably, place in their hands.

ONE of the most fitting of Mr. Gladstone's recent appointments has seated Mr. Mundella, the Liberal member for Sheffield, in the Vice-Presidency of the Committee of Council on Education—practically the head of the English Education Department. Mr. Mundella is an ardent advocate of compulsory education, and has ever taken a most lively and intelligent interest in all that pertains to the welfare, and the social and intellectual advancement of the working classes in England.

WE are in receipt of the Annual Reports, to the Municipal Councils of their respective districts, of Mr. R. Little, Public School Inspector, of Halton, and of Mr. Slack, Public School Inspector, of Perth, both of which contain interesting information respecting the educational status of their Inspectorates, and attest faithful labour in the sphere of their duty.

MR. JOHN KING, M.A., of Berlin; Mr. Samuel Woods, M.A., of Kingston; and Mr. A. F. Campbell, of Toronto, are the representatives recently elected to the Senate of Toronto University by the graduates of the Institution.