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THE CANADA

EDUCATIONAL MONTHLY

AND SCHOOL MAGAZINE.

APRIL, 1884.

FREE PUBLIC LIBRARIES.*

BY DANIEL WILSON, LL.D., ETC., ETC., PRESIDENT OF UNIVERSITY COLLEGE,
TORONTO.

WE are met here for the public inauguration of a movement of no slight significance in the history of our city, of our young province, of our still more youthful Dominion. To-day Toronto celebrates the close of her first half-century's existence as a city; and as we thus enter on a new civic era, we fittingly mark its advent by the opening of the first Free Public Library in Canada. It is an event fraught with high promise for the future; an evidence of progress which as an old citizen of Toronto I can estimate at its full worth. It is moreover a creditable index of the value attached to intellectual culture in this trading and manufacturing community; the institution of what, if widely used, must become a school in which popular education will be advanced in some of its most practical forms. A free access to books is the most

innocent, the most delightful of all luxuries. It is a privilege which I associate with my own youthful experiences; and when I landed a stranger in Toronto thirty-two years ago, the dearth of books and the utter absence of anything deserving the name of a library, in the University or elsewhere, struck me as something truly appalling. I was then fresh from Edinburgh, where the University library alone numbers 140,000 vols. Yet that is altogether secondary to the Advocates'—third in rank among British libraries—with its 265,000 printed vols. and 3,000 MSS., as free to any literary worker or special student as this institution can be. My position was that of an immigrant workman just landed and finding an absolute lack of his most needful tools. From early years I had been accustomed to the ample freedom of well-stored book-shelves at home, including the collection of a deceased relative, a Scottish clergyman, and so had been familiar from

* Inaugural address delivered at the opening of the Toronto Free Public Library, March 6th, 1884. Revised by the author for THE MONTHLY.

childhood with venerable folios and quartos, quaint, dumpy, vellum-bound 17th century tomes of divinity; Hooker and Jeremy Taylor, Leighton, Baxter, Owen, Erskine, and Blair. There, too, were the Religio Medici of Sir Thos. Browne and Burton's Anatomy of Melancholy, George Fox's Journal, Defoe's History of the Union, and old folios of a like kind. I refer to them now because I regard it as a valuable piece of education for any youth to be familiarized with such venerable representatives of 16th and 17th century literature. The mere handling of the ponderous folios, and reverently turning over their leaves impresses the youthful mind in a way inconceivable to readers of the cheap, double-columned reprints of our American piratical press. But apart from the mere form in which such authors first appeared, it is well that old and young should have free access to an ample range of literature. The quaint folios and quartos run no great danger of being unduly thumbed or dog-eared; yet such substantial tomes have charms for a larger class than the inexperienced critic is apt to fancy, and are an invaluable antidote to the fascinating temptations of modern fiction. Some space, therefore, I trust will be spared on the shelves of our city library for a choice selection of such old literature in its original substantial form.

The archaic diction of the Canterbury tales and the still less attractive aspect of such antiquarian folios as Weever's Ancient Funeral Monuments, or Dr. Stukeley's "Itinerarium Curiosum," would be considered ample guarantee for their remaining unheeded by the most book-loving youth. Yet the access of Chatterton to those old folios of Mr. William Barrett, the Bristol antiquary, was the source of his familiarity with Chaucer, Lydgate, the factitious Richard of Cirencester, and the heraldic geneal-

ogics of Weever. The free range of that library of antique literature gave archaic verisimilitude to the creation of the inspired charity boy, whose whole schooling was the mere rudiments of English, learned in the Bristol Bluecoat school. Alexander Smith, whose poetic gifts found free play while drudging as a clerk in a Glasgow warehouse, thus pictures, from his own experience, the charms of literature to one doomed to city life and born to toil:—

"Books were his chiefest friends. In them
he read
Of those great spirits who went down like
suns,
And left upon the mountain tops of death
A light that made them lovely."

Such examples might be largely multiplied. Let it suffice to say that, so long as a judicious care is exercised in excluding impure and infidel literature, it is difficult to fix a limit to the range of books fitted for a free public library. All tastes must be cultivated, and the wants of the few, no less than the demands of the multitude, catered for. Mr. Hallam, to whose persistent zeal and liberality, the establishment of this library is so largely due, has deemed it necessary to enter on the defensive in reference to the assumed predominance of novel reading. "Many persons," he remarks, "object to free public libraries because a large percentage of the books taken out of the lending department are novels, forgetting that a great number of the books in our Sunday school libraries are works of fiction, moral and religious stories, drawn with a delicacy of touch on the line of novel land—'Truth severe by fairy fiction dressed.' The type of novels in these libraries is best represented by 'The Shepherd of Salisbury Plain,' 'The Dairyman's Daughter,' 'Cœlebs in Search of a Wife,' etc. These are novels in every sense of the word—novels with a purpose to teach religious and moral

truth." To characterize the class of novels most in favour at the present day as moral and religious stories of the type of "The Dairyman's Daughter" or "The Shepherd of Salisbury Plain," would certainly be misleading; yet far be it from me to disparage the charms of fiction. To the overtaxed brain-worker, no less than to the wearied handicraftsman or tiller of the soil, the relaxation to be found in the graphic realizations of Scott; the vivid, if somewhat too melodramatic, travesties of Dickens; the sombre passion of George Eliot; or the kindly cynicism of Thackeray's outlook on humanity, is beneficial alike to mind and body. But it is one thing to seek occasional healthful relaxation in the attractive pages of fiction; and quite another to make of it our staple reading. Sugar-plums are very nice occasionally, but if made our chief diet they will not only pall on the taste, but enervate the system; and the same is true of mental as of physical sustenance. Dr. Arnold, in commenting on the misuse of intellectual advantages by the idle or self-indulgent student, says:—"Childishness, in youth even of good abilities, seems to me to be a growing fault; and I do not know to what to ascribe it except to the great number of exciting books of amusement, like 'Pickwick,' 'Nickleby,' 'Bentley's Miscellany,' etc. These completely satisfy all the intellectual appetite of a boy, which is rarely voracious, and leave him totally palled, not only for his regular work—which I could well excuse in comparison—but for good literature of all sorts, even for history and poetry."

But the true antidote for this is to be found in the attractions of more substantial literature, in the fascinating interest of good biography, in the charm of our best essayists, in the fairy tales of science, and the genuine romance of veritable history.

There was not in the Edinburgh of

my own youthful experiences a free city library such as we now inaugurate; but there were nearly equivalent advantages to be found in the Mechanics' Library, the Edinburgh Subscription Library, the Select Library, etc. There, indeed, the citizens had long been familiar with such advantages, for it was in Edinburgh that Allan Ramsay, the genial author of "The Gentle Shepherd," started, in the year 1726, the first lending library in Great Britain. By means of well-stocked libraries, such as I have named, access could be obtained by a trifling annual payment to the best literature of the day; and I thus enjoyed from early boyhood the opportunity of ranging at will among the treasures of a carefully selected library of English literature. It is a privilege not altogether conducive to rigorous or systematic habits of study, and it might have proved more advantageous under judicious guidance. Yet even if it was but like the turning of a young colt into a field of clover and leaving him to browse at his will, it was a piece of education which I look back upon now as of inestimable value.

As to fiction and the more ephemeral popular literature, their claims for a share of the space on your shelves are greatly less than they once were. With the unblushing disregard of all an author's or a publisher's just rights, such books are reprinted now in so cheap a form that—unless you are troubled with scruples about becoming receivers of stolen wares—they are practically accessible to the poorest. There is little need for a library to supply the novels of Wilkie Collins, Trollope, Geo. MacDonald, Black, or Hawthorne; of Miss Muloch, Mrs. Oliphant, Mrs. Alexander, or even of such tempting literary morceaux as Carlyle's "Reminiscences," or Jane Welsh's correspondence, when the whole can be

purchased for a few cents. But it is otherwise with the standard literature of the past and present—the historians, the poets, the essayists, the biographers. To many I trust by means of this free library the discovery will now be made that these have an enduring charm far surpassing that of lighter fiction. Science, too, grows popular, not by condescending to be superficial, but by the tempting marvels of its ever new revelations, no less than by practical contributions to the well-being of humanity. Lyell, Huxley, Tyndall, Darwin, Geikie, and a host of other explorers of hidden truths of nature, tempt the unfamiliar student within the charmed circle of science, with at times the emergence from “the common herd” of a self-taught Franklin, Stevenson, Faraday, or Hugh Miller, to repay a thousand fold the cost of such an institution as this people’s library.

“For words are things: and a small drop of ink,

Falling like dew upon a thought, produces
That which makes thousands, perhaps
millions, think.”

Inexperienced as we yet are in the working of a Free Public Library, it may not be out of place here to note that its operations will be found to differ widely from those of a British Museum or a Bodleian, where books are sacred to the student’s use. We must count on a large annual deficit in the item of books worn out. In our private libraries we scarcely calculate on our utmost liberality in lending ever leading to such a result. Nay, we resent a thumb-mark, and grudge the smallest trace of a dog-ear, unless we have attained to the rear disinterestedness of the gentle Elia. Charles Lamb owns indeed to a genuine reverence for first editions; but as for books of ordinary reading he thinks they look best—so at least he maintains in quaint irony—a little torn and dog-eared; and waxing

enthusiastic in this assumed vein of philanthropy, he exclaims:—“How beautiful to a genuine lover of reading are the sullied leaves and worn-out appearance, nay, the very odour (beyond Russia, it we would not forget kind feelings in fastidiousness, of an old circulating library ‘Tom Jones,’ or ‘Vicar of Wakefield.’ How they speak of the thousand thumbs that have turned over their pages with delight! Of the lone sempstress whom they may have cheered (milliner or harder-worked mantua maker) after her long day’s needle toil running far into the midnight, when she has snatched an hour ill-spared from sleep, to steep her cares as in some Lethæan cup, by spelling out their enchanting contents,” and so the kind enthusiast exclaims:—“Who would have them a whit less soiled? What better condition could we desire to see them in?” This is a spirit which we shall have to learn, whether grudgingly or not; for a free library at the disposal of a community of 100,000 citizens will demand constant replacement; and the Mayor and Aldermen must not be surprised at the increasing demands for wear and tear, in the process, let us hope, of transmuting well-thumbed and dog-eared volumes into mind and brain. The works thus used will, for the most part, be singly of no very costly character, though when they come to be multiplied to meet the demands of such a community as this, their rebinding or renewal cannot fail to involve large expenditure. But there is a different class of books which will interest a smaller circle, and rarely or never call for renewal, but on which also I trust your outlay will be liberal. These are important works of a large and costly character, such as are only to be looked for in a public library. But good books of all kinds are invaluable as a means of education; and as long as life lasts

we are all scholars, whether our acquisitions are profitable or the reverse. The Public School System of Ontario is her special boast; and the enactments which have been long in force for encouraging the formation of Mechanics' Institutes with libraries and reading-rooms attached to them, recognize the necessity for some provision of literary resources to supplement the school and perpetuate its advantages after the pupil has passed beyond its training. The scheme, though well intended, and perhaps all that was possible at an early stage, has proved inadequate to the growing demands which a well organized system of education necessarily begets. For it is not sufficient that there shall be no lack of culture; we require also "the inspiring aid of books..." And with those well selected and abundantly supplied, we need not doubt that the good seed thus sown will yield a satisfactory harvest. We have among us already self-taught astronomers, botanists, entomologists, geologists, and archæologists. A well-furnished scientific library will add to the number, widen their range of knowledge, and give precision to their views. Amateur philologists are not wholly unknown among us, and students of our fast vanishing Indian languages, to whom dictionaries, grammars, polyglots and commentaries will be welcome. Nor should the well-furnished reference library, which will, doubtless, form an important feature of this institution, be wanting in popular attractions. To its shelves will no doubt be relegated the ever-accumulating blue books, trade and navigation tables, census returns, educational reports, and the like dry and unattractive, but most useful repositories of varied statistics. But also among the books in this department—books which may be freely consulted but cannot be borrowed—there must be provided a good selec-

tion of the fine arts. The citizens' funds will be well spent in making the rising generation familiar with Raffaello and Michael Angelo; with Titian, Correggio, Rembrandt, Rubens, and Vandvke; with Reynolds, Hogarth, Claude, Turner, and all the choicest reproductions of modern art. The novel processes of multiplying pictures and superseding the costly art of the engraver by means of photography and its adjuncts have wondrously diminished the cost of such luxuries. There is no reason why the citizens of Toronto should not become familiar with Guercinos, Boydells, and other choice galleries of engraved art, with the "Liber Veritatis" of Claude, and the "Liber Studiorum" of Turner. The refinement begot by a familiarity with art of the highest class is an invaluable educational training. To the skilled mechanic especially it is of practical value; nor is there any reason why Toronto may not by such means evoke the slumbering genius of some new Flaxman or Thorwaldsen, or with the free access that is now to be given to the highest literature, give voice to some "mute inglorious Milton" of our own. For genius is limited by no geographical boundaries; and as to race, we speak the same tongue that Shakespeare spake. Here as the years come and go and the treasured stores of letters accumulate in this free civic library, as the fitting adjunct to our free public schools, it will no longer be possible to say of the poorest,

"But knowledge to their eyes her ample page,
Rich with the spoils of time, did ne'er unroll."

And if, from among the rarely gifted few it shall be the high privilege of Toronto to have some world-wide name associated with her schools and colleges, her honour will be the greater, in that she has accorded to mind no

less fostering care than to the sources of material wealth. But not for the few and gifted, but for all, is this Public Library founded and endowed. It is your own creation, established by the free vote of the citizens, managed by trustees elected by yourselves, and dependent for its growth on your corporate liberality. If by its means the nascent spark of genius shall be kindled into flame, and Toronto shine with a halo akin to that which plays around the memories of Athens and Florence, of Stratford-on-Avon, of the Edinburgh of Scott, or the Ayr of Burns, it is well, and the world will be the richer for it. But our truer and surer reward must be found in the pure unalloyed pleasure conferred on thousands; in the homes made attractive, bright and happy with the evening readings of the fireside circle; and in the fructifying results superadded to our public school system, as a taste for reading is engendered and the workingman learns "how charming is divine philosophy," and how infinitely surpassing all the deceitful allurements of the tavern or saloon are the shallowest draughts of true knowledge. If the result be to beguile even a few from the tempting haunts of dissipation, and to rekindle the hearth in some desolated homes—as we are assured has already been the experience elsewhere—the return, even in a pecuniary point of view, will amply repay all the outlay.

But knowledge is power. In any case true knowledge must be prefer-

able to ignorance, but if wisely directed it is power of self-control; it is power over material nature; it is power over mind and will. It is the avenue to truth, to all truths; and if rightly followed out it is the rendering of an obedience to the maxim of divine wisdom, by which alone its realization can be hoped for. "Get wisdom, with all thy getting get understanding." At the opening of the Manchester Free Library—which now after an experience of thirty-two years has in all respects realized the best hopes of its founders—Lord Lytton (better known to us by the familiar literary name of Edward Bulwer) remarked that "a library is not only a school—it is an arsenal and an armoury. Books are weapons, either for war or self-defence. And the principles of chivalry are as applicable to the student now as they were to the knight of old. To defend the weak, to resist the oppressor, to add to courage humility, to give to man the service and to God the glory, is the student's duty now as it was once the duty of the knight." May your experience after such another interval be that the toil-worn artisan, the skilled mechanic, the trader, the inventor, the jurist, and the political economist, the student of nature, and the lover of art, has each learned here the value of a well-selected library as a means not only of promoting industrial education and social progress, but as a source of elevation and refinement to the whole community.

It is as much the duty of teachers to study the nature of children as it is to instruct. Indeed there is but one way to reach successfully that mysterious entity, the mind, and that is by natural avenues. Approach by other roads is offensive trespass; the recep-

tacle is closed against it and the proffer rejected. Hence, nothing is gained by coercion. The process may be submitted to, but the result is unnatural, therefore a deformity. Is it not high time that our practice should be consistent with our theory?—*Ex.*

EDUCATIONAL THEORIES AND THEORISTS.

BY H. TATTERSALL.

THE history of Education remains yet to be written. In all periods of civilized history the subject has been a favourite one with ethical philosophers and social theorists. But we have, as yet, no complete account of its evolution and development to the present time. In attempting to take a bird's-eye view of some of the main educational theories and systems which have succeeded each other, it will be well to begin with old Greece and Rome. In Greece, music and gymnastics were for a long time the only subjects taught; and to these, in course of time, were added the "Seven Arts"—viz., Grammar, Rhetoric, Dialectic, Arithmetic, Music, Geometry, and Astronomy. These were continued by the Romans, as "Trivium" and "Quadrivium," and held sway throughout the Middle Ages. As a rule, the Greeks learnt no language but their own, and both Greeks and Romans regarded six hours as the proper limit of daily study.

The Greek philosopher *Plato*, in his "Republic," considers that a child under ten should give himself to gymnastics, learn reading and writing from ten to thirteen, poetry and music from fourteen to sixteen. The study of music is perhaps the most characteristic feature of Greek education. Passing from Greece to Rome is passing from the ideal to the practical. The Greek was emotional, receptive, speculative, refined—a philosopher; the Roman stern, impatient of theory, systematic, warlike—a conqueror and governor. The seven "liberal arts," as above enumerated, formed the staple of Roman education, with the Greek language in addition; and what

music was to the Greeks, rhetoric was to the Romans.

Such is the brief sketch of the two chief educational systems of the pagan world.

To these succeeded the *Latin Fathers*—Tertullian, Cyprian, Jerome, and Augustine. These, in turn, were supplanted by the more powerful *Schoolmen*. The fathers sought to give a purely Christian education. The Schoolmen united to the studies of the cloister the graces of the castle, for this was the age of chivalry. The pupil passed through three grades—those of page, squire, and knight—uniting to the scholarly curriculum of the "seven liberal arts" the knightly code of the "seven free arts"—viz., riding, swimming, archery, boxing, hawking, chess, and poetry. This course, it will be granted, was comprehensive enough in intention, whatever the extent to which such intention was realised.

The Renaissance, in the fifteenth century, and the reformation, in the sixteenth, each played an important part in the moulding of education. To the former we owe St. Paul's school and More's "Utopia"; and to the latter that system of so-called "humanistic" education which shaped for generations the methods pursued in our great English public schools.

The Humanists were followed by the *Realists*—the leader and exponent of whom was the first really great educational reformer, *John Amos Comenius*, born in Moravia in 1592. His greatest work was the "Didactica Magna," "a complete handbook of education in all its branches, and the first attempt to write a systematic

treasure on the whole subject." The key-note of his system is the method of *Nature*. To Nature he refers all educational operations, and from it he deduces all educational principles. This method, in fact, he follows too far, inasmuch as the organic growth of nature is not in all its phases truly analogous to the subtle expansion of the human mind. A man's nature, he holds, will inevitably move in the direction in which nature impels it, and all that we are required to do in education is to give stimulus and guidance. His principal rules for learning are that education must begin in early life, must be chiefly conducted in the morning hours, and that all subjects of study must be carefully adapted to the age and capacity of the pupil. In books and lessons the concrete must precede the abstract, things must be learnt before words, words before grammar, and details before principles. It will be seen from this that Comenius was far in advance of his time, and in some respects of our own. It is curious and suggestive, also, that his principles are the very principles most strongly urged by some of the greatest of our present day educational philosophers. Another rule of Comenius was that attendance at school must be regular, and all school tasks must be systematically pre-arranged; this he practically enforced by resolutely refusing to admit any scholar into his school except at one certain fixed period of the year. A rule and practice this, which will, I am confident, commend itself to the approbation of all who read this paper, and of which most will be inclined to envy Comenius. But some very important factors in our present educational system were unknown under *his* régime. In that happy age there were no Education Act, no Codes, no school attendance officers, and no school Inspectors! There are other principles of Comenius

well worthy of attention. The natural order of the child's mental development must be observed, and we must first train his perception, then his memory, next his insight, and *lastly* his judgment. It may safely be said that a more sensible and practical theory than this as the basis of educational training was never advanced. It certainly shows favourably in comparison with some of the *doctrinaire* speculations of the present day. In his model national school Comenius arranges his curriculum to include reading, writing, arithmetic, measuring, singing, Scripture, history, and physical geography. The language is to be confined to the mother tongue, for it is absurd to learn a foreign language till *that* is known. The school is to be arranged into six classes, and the course to cover six years, from six to twelve. The daily school hours are to be *four* only—two before, and two after, noon. The morning is to be given to the understanding and the memory, and the afternoon to the practice of the hand and voice. Nothing *new* is to be learnt in the afternoon. The "National" is to be succeeded by the "Latin" school, also containing six classes, and covering the years from twelve to eighteen. The subjects taught are to be grammar, physics, mathematics, ethics, dialectics, and rhetoric. And this course, to render the education complete is to be followed by the training of the university.

To use the words of Mr. Oscar Browning, "The more we reflect on the method of Comenius, the more we shall see that it is replete with suggestiveness, and we shall feel surprised that so much wisdom can have lain in the path of school-masters for two hundred and fifty years, and that they have never stooped to avail themselves of its treasures."

From the practical and far-seeing

Comenius we turn to the theoretic and idealistic *Milton*. The one was a school-master, giving his time and energies to the scholars he called around him; the other a student living among his books, and largely ignorant of the great world of childhood. We at once perceive the organic differences between the two men when we come to compare their respective theories. The one gives us a well-defined, clearly formulated system, grounded on the true principles of Nature and psychology—a system capable of adaptation, and applicable to all. The other generates a gigantic visionary ideal, which almost bewilders one's imagination, and is incapable of attainment by one in ten thousand.

Milton's "Tractate on Education" was published in 1644, and reprinted in 1673. In it he defines a "complete and generous education" to be "that which fits a man to perform justly, skilfully, and magnanimously, all the offices, both private and public, of peace and war." The method he proposes is to found an academy, which shall be at once both school and university. It must be large enough to accommodate 130 persons, ten of whom are teachers and governors, and the remainder students—a teacher to every twelve scholars, you observe. The pupils enter at twelve, and stay till they are twenty-one. Each day's work is to be divided into three parts—for studies, exercise, and meals. The most wonderful thing about this temple of learning is the curriculum. During the nine blissful years passed by the students in this most utopian "academy" they are to make themselves proficient in the following subjects, which I give in the order laid down by Milton:—Latin Grammar, Arithmetic, Geometry, Scripture, Geography, Greek, Natural Philosophy, Trigonometry, Architecture, Navigation, Anatomy,

Medicine, Ethics, Economics, Italian, Politics, Law, Theology, Church History, Chaldean, Syriac, Logic, Rhetoric, Poetry, Music, and Military Science. Twenty-six subjects, and such subjects! Some of them, it is true, occupy secondary places; they are thrown in parenthetically as agreeable diversions. Italian, for instance, we are told, may be, "easily learnt at any odd hour!" But, unfortunately, we are *not* told where the "odd hour" is to come from. It may be said that this grandiloquent scheme is lacking, for perfect comprehensiveness, in but two particulars—viz., that its author does not instruct us how to create brains, and how to elongate time at will. Were Milton's system applicable, and had it been generally followed out, the proverbial "schoolboy" of Macaulay, instead of being the mythical character he is, would have figured as an unmitigated dunce.

In 1693 *John Locke* published his "Thoughts Concerning Education." This is now a little-read book, yet it occupies an important place in educational literature, and has exerted considerable influence on the educational theories held subsequent to its advent. Locke regarded education to have for its end the right formation of the character. He was a disbeliever in the existence of innate ideas, and looked upon a child's mind as something that could be moulded like wax; yet he accepted the fact of different inherited capacities in different individuals. "The right way to teach," he says, "is to give children a liking and inclination to what you propose them to be learnt, and that will engage their industry and application. . . . Most pains should be taken with what is most necessary, and that principally looked after which will be of most and frequentest use to him [the pupil] in the world." Here Locke

figures as the exponent of the "Naturalistic System," of which Herbert Spencer is our greatest contemporary advocate. Mere learning Locke regards as the least important province in a true educational system; and in this he agrees with *Buller*, who says that, "of education, instruction forms the smallest part."

In *Rousseau* we have another idealist, though of a very different type from Milton. His "Emile" appeared in 1762, and treats of the complete education of a man. This system comprises four periods. The first two are those of childhood, and are confined to physical exercise and speech; the third extends from twelve to fifteen, and is the period of positive instruction; the fourth period commences at fifteen, and concerns itself with the moulding of the passions and the training of the feelings. Rousseau pushes the "naturalistic" theory to its further extreme. Books are to be almost wholly discarded! "But," says he, "if you must absolutely have books, there is one which furnishes, in my opinion, the most happy treatise of natural education. This book will be the first which my Emile will read. It alone will form for a long time the whole of his library, and it shall always hold in it a distinguished place. . . . What then is this wonderful book? Is it Aristotle? is it Pliny? is it Buffon? No, it is Robinson Crusoe." Here is, surely, the climax of "naturalism"—a system of instruction founded on Robinson Crusoe! Before leaving Rousseau, it is interesting to remark that he who talked in so fatherly and affectionate a strain of his son, actually relegated each of his children, as soon as they were born, to the foundling hospital, and never knew or saw them afterwards! The succession of educational philosophers is graced with, at all events, one example of a canting hypocrite.

A man of a very different stamp

was *Pestalozzi*, who lived at the end of the eighteenth, and the beginning of the nineteenth, century. In him we have another illustration of the earnest and devoted teacher, as opposed to the mere theorist. He gave himself up to the work of a schoolmaster from motives of high unselfishness and disinterested philanthropy. The town of Stanz, on Lake Lucerne, was burnt by the French, and the whole of the surrounding Canton laid desolate. One result of this disaster was the creation of a large number of homeless and destitute orphans. Collecting together eighty of these poor creatures, he placed them in a convent, and instituted himself as their guardian and schoolmaster. The children were very ignorant, not more than one in ten knowing the alphabet. Pestalozzi had, therefore, to begin at the beginning, and his system accordingly confines itself to strictly elementary education. He anticipated the monitorial system of Bell and Lancaster by setting some of the children to teach the others. He came to the conclusion that juvenile education must commence with the senses, and lead up to the intellect. The fundamental subjects he considered to consist of number, form, and speech, which really answer to our modern three R's, with the addition of drawing to writing as a branch of "form." Time forbids a detailed explanation of Pestalozzi's methods; but it may be said generally that they were those from which Froebel afterwards deduced the system with which his name is connected. Pestalozzi's guiding principle was that education is made up of two things—observation and comprehension, the first as the preliminary, and the second as the resultant. His example was most salutary, both to his contemporaries and predecessors. It is a suggestive fact that, notwithstanding his unwearied devotion and kindness to his scholars, he

found himself unable to depend entirely on moral suasion, and was absolutely compelled to resort to corporal punishment. I cannot refrain from quoting Pestalozzi's own words in description of his life and work in the school just referred to, and in which his days were spent from morning to night. "Every assistance," he says, "everything done for them in their need, all the teaching that they received came directly from me; my hand lay on their hand, my eye rested on their eye, my tears flowed with theirs, and my smile accompanied theirs. Their food was mine, and their drink was mine. I had nothing; no housekeeping, no friends, no servants; I had them alone. I slept in their midst; I was the last to go to bed in the evening, and the first to rise in the morning, I prayed with them and taught them in bed before they went to sleep."

Probably the long bead-roll of noble deeds, and the glorious annals of elevated philanthropy, contain no chapter more profoundly beautiful, no picture more profoundly ennobling, than the life of Pestalozzi.

At this stage it may be remarked that the most sensible and practical theories hitherto noticed have been those formulated by men who were themselves the instructors of youth.

Coming nearer to our own age we have in *Mr. Ruskin* a reformer in whom the idealistic and naturalistic elements are, in some sort, combined. He would have children "educated compulsorily in agricultural schools inland, and naval schools by the sea, the indispensable first condition of such education being that the boys learn either to ride or to sail; the girls to spin, weave, and sew, and, at a proper age, to cook all ordinary food exquisitely; the youth of both sexes to be disciplined daily in the strictest practice of vocal music; and for morality, to be taught gentleness to all brute creatures, and finished

courtesy to each other; to speak truth with rigid care, and to obey orders with the precision of slaves. Then, as they get older, they are to learn the natural history of the place they live in, to know Latin—boys and girls both—and the history of five cities: Athens, Rome, Venice, Florence, and London."

Prof. Bain, on the other hand, gives an elaborate work in which education is treated as an organized science. In it the bearings of physiology and psychology in relation to his subject are minutely indicated, including the parts played by the emotions, memory, judgment, imagination, etc.; the sequence of subjects, and their values, educational methods, art, and the moralities, are all subjected to a detailed and careful examination. The basis of the work is materialistic; its general aim purports to be a war, "not so much against error as against confusion," and it is prominently urged that "the division of labour in the shape of disjoining incongruous exercises is a chief requisite in any attempt to remodel the teaching art"; the general result being a proposal for a "renovated curriculum," embracing science, history, sociology, and literature.

Of all our present-day educational theorists *Mr. Herbert Spencer*, the great apostle of the new science of sociology, is perhaps the most considerable. His work on "Education" has passed through numerous editions, and has been translated into some six or seven European languages. Mr Spencer is much dissatisfied with the prevailing methods of education. We have, he says, substituted decoration for dress. In this we resemble savage tribes who attach much more importance to ornament than clothing. According to Humboldt, "an Orinoco woman, who would not hesitate to leave her hut without a fragment of clothing, would not dare to commit such a breach of

decorum as to go out unpainted." And so, in our modern curriculums of instruction, the ornamental predominates over the useful.

This strikes the key-note to the work. "The general problem," we are told "which comprehends every special problem, is the right ruling of conduct in all directions under all circumstances." Hence, "to prepare us for complete living is the function which education has to discharge." Our present system does not adequately discharge this function. We neglect the natural process of the mind, teach facts second-hand, palm off the symbols of knowledge for knowledge itself, arrange our subjects in abnormal order—placing the abstract before, instead of after, the concrete—and pervading the whole system is the vicious method of rote learning—a method which sacrifices the spirit to the letter. Many of our present subjects may be looked upon as part of "the efflorescence of civilized life"; and we neglect the plant for the sake of the flower. Accordingly our methods are to be discarded as obsolete and vicious, in favour of a naturalistic system based on psychological principles; while, in answer to the question, "What knowledge is of most worth?" the uniform reply is *Science*. This is the verdict on all the counts—for all matters whatsoever, affecting life, its conduct, its government, and its enjoyment, and all other science itself being understood as "a key to the science of life."

While agreeing that there is much that is valuable in Mr. Spencer's theory, it would be easy to assign objections to some of his leading principles. His chief error seems to me to lie in drawing his lines too hard and fast. In mental food, as in physical, what is one man's meat is another man's poison; and a wide latitude of choice is necessary. What Mr. Spencer regards as the "efflor-

escence" of civilization, and the "flowers" of education, will very probably be regarded by many other thoughtful minds as the very essence of progress and the true "plants" of culture. In others of his works he assigns much importance to many various kinds of "bias" in the past growth and present condition of the human race. It may, perhaps, with truth, be pointed out that the "bias" in Mr. Spencer's educational theory has a decided preponderance in favour of the establishment of his favourite new science of "Sociology."

When we come to ask what are the practical results of all these centuries of theorising, and what the actual effects produced thereby on our present system of education, the response would seem to be somewhat disappointing. Surely by this, education ought to be, if not in the condition of a perfected art, at all events very near to such a consummation. That such is not the case there is overwhelming testimony to prove.

When, in 1861, Mr. Robert Lowe initiated his too famous system of "payment by results," the natural order of things became inverted, and since then, not evolution, but revolution, has been the order of the day in matters educational. The "Codes" have kept pace with "the process of the suns," and in most cases each has been an advance, if not in confusion, at least in complexity, upon its predecessors. It is, perhaps, not too much to say of the last Code of all, that it awoke in the mind of those who have to work it, higher anticipations, and that since its advent it has effected in the same minds more pronounced disappointment than any of its forerunners. Many names have been suggested for it; perhaps the name best fitted to it, and in its present condition it certainly deserves no higher, would be the "Code of good intentions."

The two characteristics which most

strongly mark our present system are those of strain and complexity. That there is strain, those best qualified to know are unanimous in declaring. Fortunately the public are taking up the matter, and it is to be hoped that the agitation upon it, now fast spreading, may produce salutary results. In Herbert Spencer's "First Principles," we are told that "progress consists in the passage from a homogeneous to a heterogeneous structure. The law of all progress is one and the same, the evolution of the simple into the complex, by successive differentiations." Our "Codes" certainly may be looked upon as a progress from the simple to the complex, from the homogeneous to the heterogeneous and this by "successive differentiations" so peculiar and conflicting as to puzzle the most enlightened.

What help in the matter are we afforded by the numerous class of educational theorists comprised by our school Inspectors? If we appeal to their reports in the annual blue-books, the thing that will strike us most is that it is a case of doctors disagreeing. However, in the matter of results, with which these gentlemen are naturally most largely concerned, there is general agreement upon one important point; that is, that the work produced by our scholars, looked upon as a whole, is too mechanical, and lacking in intelligence. Mr. Alderson succinctly summarises it as "reading, which does not expand the mind; grammar, which does not leaven speech and writing; arithmetic, which does not form a habit of exact thinking; geography, which does not interest the imagination; literature, that does not improve the taste; physiology, that has no bearing on the simple laws of health; domestic economy, that does not contribute to the comfort of homes." This is a formidable indictment. Supposing it to be all true, the question is, where lies the

blame? And the answer may be boldly and immediately given, Not with the teachers so much as with the Code. For, mark you, all the above concerns itself with *intelligence*.

Now intelligence, properly understood, is a matter not of instruction, but of education; intelligence is not a concrete quality, but an abstract one. And I ask, where—after devoting the time and labor necessary for the imparting of the mass of *instruction* which the Code enforces—where is the time left for our fairly devoting ourselves to the patient and subtle processes required for an adequate educating of the intelligence? A few years ago Mr. Matthew Arnold gave utterance to an earnest plea for *simplification* in our present system. It is to be lamented that this plea has been so generally ignored, for it becomes more and more obvious that in an effective simplification of our present conditions lies the true solution of our difficulties and the true easing of our burdens.

In closing, I am reminded of a passage in Spenser's "Faerie Queene," where the fair Britomart has gained an entrance into the Temple of Love, and stands bewildered by its glories and mysteries:—

"And as she lookt about, she did behold
How over that same dore was likewise writ,
Be bold, be bold, and everywhere be bold;
That much she muz'd, yet could not construe it
By any ridling skill, or commune wit.
At last she spyde at that rowmes upper end
Another yron dore, on which was writ,
Be not too bold; whereto, though she did bend
Her earnest mind, yet wist not what it might intend."

The Temple of Learning has many doors over which appears the legend "Educate;" is it not time to take note of that single inner-door, beyond which lurk risk and danger, and bearing on its portals, in unmistakable characters, the warning injunction, "Do not *over-educate*?"—*The School-master*.

UNIVERSITY LIFE IN THE EARLY PART OF THE
SEVENTEENTH CENTURY.

SITTING beneath the limes in the pleasant grounds of St. John's College, Cambridge, on the occasion of a garden-party given by the Master and Fellows, I overheard the following conversation. The speakers had left the crowd of brightly-dressed lawn-tennis players, and were resting till ready to begin again.

She (*contemplating his gaily-striped blazer with approbation*): "Awfully nice stuff."

He (*gratified*): "Ah, aw'fully nice."

She (*with an air of economy*): "What did it cost?"

He: "Really don't know; Oh yes! the man said it would be a guinea; very cheap!"

She (*as one struck with amazement*): "That's awfully cheap!"

He (*taking up the chorus*): "Oh yes! Aw'fully cheap!"

She (*bent on fully appreciating this marvellous phenomenon*): "It must cut into a great deal of stuff, you know."

He (*rather more languidly*): "Awful deal stuff."

He and She (*recurring instinctively to the original proposition*): "Oh! very cheap; yes! aw'fully cheap!"

This set me wondering whether an undergraduate two hundred and fifty years ago would have looked at things in such an airy manner; and the incident may serve as a peg on which to hang a few details of University life in the days when living and education at Cambridge really *were* "awfully cheap."

When we read in the Paston Letters that Walter Paston's half-year's expenses at Oxford, about the year 1478, were some £6. 5s. 5¾d., we are apt to dismiss the fact from our minds as relating to a period so remote that it

can hardly be brought into comparison with our own times. That, we say, was before Columbus sailed for America; before English printing had spread further than Caxton's press-room; in short, before the dissolution of the monasteries, the rise of trading communities to power and the development of sheep-farming had revolutionized English notions of prices. Only some three-quarters of a century had passed since the death of Chaucer—the Chaucer who could truthfully depict his two Cambridge scholars, Alayn and Johan, as riding to Trumpington Mill with the sack of College grain for the gristing. It was in fact a primitive time, when the whip was still a valued academical instrument, not only of discipline, but of direct tuition. For did not Agnes Paston desire her son Clement's tutor, in 1458, to "trewly belassch hym"? adding, "for so did the last maystr and the best that ever he had att Caumbrege."*

Leaving such remote times, we shall find that although the great movements above referred to, and which marked the close of the feudal period, had a great effect on the value of money, especially in the large centres such as London, yet comparatively cheap rates obtained in the country even after Drake and Raleigh had made the Spanish Indies an old tale in men's mouths. Prices rose erratically and by fits in London itself. This appears from a curious complaint of the Warden of the Fleet Prison about the year 1621. †

In defending himself from the

* "Paston Letters" (Gairdner's Edition), No. 311, Vol. 1. p. 422.

† "The Economy of the Fleete." Camden Society's Publications, p. 93.

charge of extortion brought against him by some of his unruly collegiates, he instances the dietary rules fixed some sixty years previously, by which he was bound to supply gentlemen prisoners with their diet (including a gallon of wine) at the rate of 10s. a week.* When this rate was fixed, he says, gentlemen of the Inns of Court paid but 20d. or 2s. for their commons, whereas their prices are now (1621) raised to 7s. or 8s. a week. Although this latter sum is far from extortionate, we shall find that those bent on economy could do considerably better at Cambridge a few years later.

Let us commence with an instance not falling into the very cheapest category. In 1611, Sir Thomas Knyvet, of Ashwell Thorp in Norfolk, sent his grandson Thomas to Emanuel College, Cambridge; and we may suppose that the young man's dignity would require to be kept up at a little more expense than that of a plain country squire's son. Yet from the correspondence that passed between Lady Knyvet and the tutor, Mr. Elias Travers, which has been preserved for us in the hitherto unpublished Gawdy MSS.,† it appears that £40 was his early allowance, and that this sum was expected to cover everything. It is true that the "house of pure Emanuel" (which is not now considered a particularly fast College) was noted in those days for its Puritan doctrine and precise discipline. ‡

The tutor rejoices that young Knyvet will find no example of gaming set him there, and the statutes expressly forbid hunting and the wearing of great ruffs, § both symptoms of what Mr. Travers calls "the humorous lust of boastfull expence."

From these letters we gather the

following miscellaneous facts. Winter quarters were more expensive than others, and the "excessive rate of things" made it difficult for the youth, though studiously inclined, to keep within his "stint" or allowance. The rent of his chamber, to be divided between himself and his chamber-fellow, was only 12s. a year, and 7s. 4d. supplied him with coal and candles from the end of long vacation till the beginning of March (1614-5). But perhaps the most interesting document is a more or less complete half-yearly account of young Knyvet's outgoings, ordinary and extraordinary. Of this I will now give an analysis, and wish I could print side by side with it as perfect a statement of some other undergraduates' bills, let us say for the years 1715 and 1815.

"Commons" for six months amount to £2. 10s.; "Sising" * for the same period, £3. 9s. 6d.; light and firing (as already mentioned), 7s. 4d.; and, among minor items, we have cash advanced to him by his tutor on two separate occasions, £1. 1s.; his hatter's bill, 2s. 6d.; two pairs of cuffs, 1s. 2d.; incidental expenses, £1; and a contribution towards the entertainment of King James I., on his visit to the University that year, of seven shillings! The one act of extravagance appears in the following six items, which are marked in the margin as Mr. Cardock's little bill for things got at Sturbridge fair:—

Four dozen of long buttons . . .	s. d. 8 8
Black galoun lace	1 3
3 dozen of black buttons	1 0
Coloured silk (half-ounce)	2 4
A sattin Coller	9 0
A yeard of green Cotton	2 6

With his chamber rent the total only amounts to the modest sum of £9. 3s. 7½d.

* "Sising" is now said to be confined to extras got from the buttry, such as cream, eggs, etc. For an instance of the older, wider acceptation of the word see *King Lear*, act ii. sc. 4: "Tis not in thee to scant my sizes."

* Knights paid 18s. 6d., and yeomen (who got but a pott of wine) 5s. 6d. a week.

† "Gawdy MSS." *penes* Mr. Walter Rye, Vol. III. Nos. 470-486.

‡ As late as 1669 the College records show that offenders were "whipt in the buttry."

§ "Fourth Report Historical MSS. Commissioners," p. 420.

How was this "economy rendered practicable? The key to the enigma lies in the large power which was reposed in the tutor by the home authorities. All remittances passed through his hands, he was informed of the rate at which his pupil was to live, and expected to see that the allowance was not exceeded. The latter's bill of half-a-crown is entered as having been paid by the tutor, and Mr. Elias Travers did not think it beneath him to guard against the tailor's perennial propensities towards overcharging and "cabbaging." Poor and irregular as were the modes of conveyance in those days, anxious mothers did not omit to keep their absent sons supplied with parcels from home. Lady Knyvet, on one occasion, sent Tom a piece of cloth for a gown, of the same stuff as his grandfather's new gown, and did not fail to apprise the tutor what ought be paid for the making. Several letters must have passed on this momentous subject, the pedagogue finally agreeing with her ladyship's wonder that the Cambridge "snip" should make so little difference in price between the old gentleman's ample robe and the (presumably) scantier gown of the undergraduate: "wherfore I thinck it were not amiss if you willed him to deferr ye making up of it till his coming home, wch may happily save yt wch ye Taylor here made a reckoning to have had for his share."

That this overseeing of the clothes formed part of a recognised system is clear from the fact that they fell under the tutor's immediate charge at Oxford as well as at Cambridge. Lady Brilliana Harley, in 1639, wrote to her son Edward at Magdalen Hall, "I like it well that your tutor has made you hansome clothes;" and again, "I like the stuff for your clothes well; but the cullor of thos for every day I doo not like so well; the silke chamlet I like very well,

both cullor and stuff. Let your tokens be allways of the same culler of your cloths, and I hope you now weare Spanish leather shouwes. *If your tutor does not intend to bye you silke stockens to wear with your silke shute . . . I will bestow a peare on you.*"* The interesting correspondence in which this occurs also supplies us with examples of the hampers from home, now mostly confined to scholars of tender years. Lady Harley sends Ned a kid pie, believing that "you have not that meat ordinarily at Oxford," and adding appetisingly, "on halfe of the pye is seasoned with one kinde of seasening and the other with another."† A baked loin of veal, and a "turky pye with two turkys in it," also come his way, but they are sent at first with some diffidence, one Mrs. Pirson (apparently a local Mrs. Grundy) having informed Laby Harley that when she sent such things to *her* son at Oxford he prayed she would not.‡

Considerable trust being thus reposed in the tutor, we find that parents kept a close eye on him, often writing, and embracing convenient opportunities to have him visit them during vacation time, when they could become personally acquainted. In one letter Mr. Elias Travers becomes quite apologetic over certain faults and short-comings for which Lady Knyvet had reprimanded him. He winds up: "If the tobacco I have sometimes taken to be a iust grievance to any, I desire them to know yt if ye forbearance or utter avoidance of it will give vm content, I shall quickly quite ridd myself of it."§

Let us now read a similar series of letters from another tutor, Nathanael

* "Lady B Harley's Letters." Camden Society's Publications, 1854 pp. 22 and 50.

† *Ibid.* p. 53.

‡ "Lady B. Harley's Letters." Camden Society's Publications, 1854. p. 13.

§ "Gawdy MSS." *ubi sup.* No. 474.

Dod, of Gonville and Caius College, to Framlingham Gawdy, of Norfolk, in the years 1626-7, concerning the latter's kinsman, Anthony. They will be found to confirm our views of the position of a tutor, and the responsibility, financial and otherwise, which he undertook for his pupil. The first we cite runs as follows* :—

May it please you Sir, I receyved your letters by your kinsman Anthony Gaudy dated Septemb. 17th. Your and his request for the discharging of his expenses to the colledge I am ready to pforme, And if there were any other thing wherein I might doe him any freindly office, he shoulde not find me backward, for his orderly behavoure in the house and loving affection to me challenge moore at my handes. According to your desire I have and will further advise him to all frugality, wishing that he may be no lesse pleasing to you, then (as I understand) you are loving and helping to him. This inclosed notet shows you his expences for this last halfe yeare from our lady to Michaelmas I desire you would be pleased to send up these monies soe soone as may be for I am already called upon by the Colledge officers. There is due to Mr. Michells of ould reckonings 1^l 5^s 0^d wth he requested me to receive for him. Your kinsman (as he tells me) hath certified you of the particulars I desire (if it please you) to receive all together & even thus wth my best love I commit you to god

Your unknowne freind

NATHANIEL DOD

Caius Coll :

Novemb. 8

1626

The next news that Mr. Dod has to send is not so pleasant, and probably caused some heartache at Harling Hall :—

Worthy Sir, I am now necessarily enforced in regard of my relation to acquaint you with a business that concerns your kinsman and my Pupill Anthony Gaudy. I could wish it lay upon another man's tongue or penn, not mine. The story is this. Not long since your kinsman beeing in the Colledge Buttry at Beaver, at the pmitted hower betweene 8 and 9 of y^e clock at night, the Deane came in, chargd him to be gone, he tould him he would & was presently deptyng. The Deane tells him, unlesse S^r Gaudy you had forthwith gone I should have sett you out : upon that your kinsman not brooking those speaches, turnes back, and pulls one his hatt & tells him, seeings (*sic*, colloquially for " seeing as ") he used him soe, he would not yet out, upon that the Deane strikes him with his fist in the face. Hee beeing a man and of a spirit could not forbear, but repaise the Deane with interest; for this he was convented before the Master & fellowes, and a severe Censure passed on him, he was deprived of his scollershipp and warned wthin a monthes space to provide for himselfe elsewhere. He is now therefore come to you his best father, wth whom I doubt not he shall find wellcome, and I hope you will passe a milder censure one him then others have done. I assure you I find him to be one of such a Nature and disposition as I highly approve of. And I hope hee himselfe will be able to give testimony of his time well spent. I pray you entertaine not a thought of blaming me for what is done, after the fact it lay not in my power to remedie the successe; and who can tell how to prevent such a fact as ariseth from a sudden passion? And thus having made way in his behalfe by a true narration of that accident, I must present you wth a bill of all his expence, wth you shall receive herein inclosed, I pray you (Sir) be pleased

* *Ibid.* (500).

† Not extant.

* The evening meal.

to helpe me with these monies soe soone as with conveniencie you can. Much whereof is out of my purse already, & y^e rest very suddenly to be paid. I make noe benefit by your kinsman, I pray you let me sustain noe damage. And thus wth y^e kind remembrance of my love unto you, I take my leave and rest

Your very loving friend to his power
Caius Coll. NATH: DOD

April 17, 1627 *

Then occurs the cheapest instance of living which I have yet come across, and it will be allowed that Mr. Dod really did his best for his country patrons in procuring their relation such extremely reasonable quarters:—

May it please you Sir I rec. your letter by your kinsman Anthony Gaudy whom I have now placed in an honest private house, *where he hath his dyet, his Chamber & washing for 5^e y^e weeke* In w^h place I my selfe one lived a little before I was a fellow of the colledge. I truly conceive good hopes of his wellfare, neither am I wanting to him in my advice for, his studdies. They with whom he boards desire to be paid weekely. I pray you therefore to send up his quarteridge beforehand that I may pay it accordingly. The bearer hereof, Peter Aspinal, is one whom I thinke you will trust with those monies I should receive from you, if it please you to send them to me by him at his next returne they will be wellcome. And even soe in great haste I take my leave and rest

Your loving friend

Caius Coll: NATH. DOD

May 2^{do} 1627 *

The next letter acknowledges the receipt of certain gold pieces and quarter pieces by the carrier, with a

* "Gawdy MSS." *ubi sup.* No. 517.
* *Ibid.* No. 519.

note of the number of grains they were found deficient in weight. The carrier is also to be paid by the person remitting the money for his trouble. We will pass over this and give one more letter bearing on our main subject.

Sir, A quarter of a yeare is now expired since your kinsman entered into Commons in y^e towne, for whom according to your desire I stand engaged. My desire now is that you would be pleased to send unto me y^e monies due at y^e next conveniency, for I am called upon for them. Besides the 3^{li} due for his board, He hath runn some few necessaric expences upon other occasions, viz. for new shoes & mending 4^s 8^d the. Taylor for mending his ould apparrell 2^s 4^d Barber 1^s—the whole summe of all is 3^{li} 8^s wth summe I expect at y^e carriers next returne. In your kinsman's behalfe I can say that I have seene him often at o^r religious exercises. I have mett him sometimes walking alone into y^e fields wth I can noe otherwise interpret but wth an intent to his studdies and meditations I have likewise observed that he is out of apparell notwthstanding his care & thriftines in the p^{er}servation of those clothes you have already bestowed upon him. I conceive good hopes for his ree-entrance into y^e Colledge soone after Michaelmas

In hast I take my leave & rest

In all due respect

NATHAN: DOD

Caius Coll.

Aug. 8. 1627.*

The above rate of living does not seem to have been exceptional, as in his next letter (April 9, 1628), Mr. Dod asks for £7. 11s. for young Gaudy's expenses for the half-year from Michaelmas to Ladyday. Beyond this I am not able at present to

* "Gawdy MSS." *ubi sup.* No. 522

trace the course of Anthony's fortunes at Cambridge.

What was the style of living at Gonville and Caius College from which "Sir Gawdy" was thus harshly expelled? The following jottings from the Bursar's books of the period, which have never been published, will give us some idea of the manners of the time. *

The Fellows drank out of silver "potts," each man having his own. In 1622 "Mr. Cruso's pott" was mended at a cost of two shillings, and several entries of old cups changed for new ones (the Fellow who had the use of it contributing out of his private means so as to get a larger or finer goblet) show how it is that old silverware is so hard to find nowadays. But they did not always drink out of the nobler metal, "a little jugg and pott for the fellows in y^e halle and parlour" being bought for 17*d.* in 1644. Silver spoons, got ten years previously from London (a shilling being given to the person that brought them), must also have been meant for the upper table. In 1612 there was a regular overhauling of the College sideboard, and 37*s.* 5*d.* had to be paid the goldsmith for mending the plate that was found to be "spoyled and battered at the going out of Sir Utting out of his butlership." But if it is bad to have plate battered, it is worse to have it stolen, and in 1658 we find that this has happened, and fifteen shillings is paid Mr. Marsh for "putting the lost plate into the *Diurnall*," and "other charges in pursuance of the stoll'n plate" come to £1. 10*s.* 6*d.*

The undergraduates drank and eat out of the pewter, an arrangement which saved breakage, and had the additional advantage that when the

mugs and platters got bent out of all shape, the pewterer took them back as old metal, and a new stock of "dishes, sawcer, and porringers" was laid in, the cost being ninepence-halfpenny a pound. The duty of looking after the pewter, and collecting and counting it after each meal, fell on "young Ablinson," the cook's son, who got a trifle every quarter, for his pains. He could not expect much, seeing that his father (shades of Sover forgive us for exposing the humiliating fact!) only got ten shillings a half-year for his salary, and the "subcoquo" a miserable 3*s.* 4*d.*

What Ablinson and his sculleryman cooked is not so clear, for the details of the viands are not given in the accounts, except an item of exceptional "cheere" in which the Fellows indulged in the treasury, "the same night the counts were made up." Two shillings' worth of pigeon pies, eight pennyworth of puddings, cheese to the extent of fourpence, and a "pottle of clarret wine," which cost sixteen pence, formed the solace after that evening's reckoning. Entries of gratuities to the messenger who brought the brawn at Christmas (at Emanuel College they were careful to call it "Christ-tide") from one of the College tenants, and of a special payment for fuel for boiling that delicacy, reminds us to note that the rents were still paid, partly at least, in kind. Out of a rent of £20, for instance, thirty-three shillings and fourpence would be taken in wheat and malt, while wethers, capons and hens were not unfrequently received as well.

Porridge was eaten, as appears by the charge of twenty pence for an "oatemeale box." One dozen fruit dishes, got in 1618, were probably reserved for the dons, who also indulged in oysters. The succulent bivalve when it arrived at Cambridge was cried through the streets, and an

* "MSS. Books 695 and 692, Gonville and Caius College Library, 1609-1661." My thanks are due to R. C. Bently, Esq., M. A., the Librarian, for permission to make these extracts.

occasional fourpence to the "oyster crier" was evidently not grudged. What they drank with their natives is not recorded, but that they took care of their cellar is clear from the entry in 1647 of the purchase of a lock "of the Hart of Oake, and some iron to it, for Steuen Burt's wyne."

Good food deserves to be neatly served, and the College was extravagant in the matter of table-napery, if in nothing else. "Three dossen of diaper according to 8s. 6d. the dossen" made up into two dozen napkins and three towels, and they cannot have been reserved for the seniors, as at the same time no less than seven dozen more napkins were bought at prices varying from 7s. to 8s. 4d. That the purchasers were particular appears from their paying 2s. 3d. for the carriage to and fro of the stuff "upon the liking or not liking." When they bought damask napkins in 1629, the price was 22s. a dozen; white tablecloths, of "elbroad cloth," for the upper table, cost 17d. a yard; and "schollers" tablecloths, 10d. and 11d. From curiosity I picked out all the items relating to table linen for four years (1634-1638), and found in that space of time 192 yards of table cloth, and 27 dozen and ten napkins were laid in. Linen was bought at Sturbridge fair, and in 1649 they went as far afield as Lancashire to purchase it, for which I can suggest no reason. There is a pleasant clean homely scent about the entry of twelpence paid to "Goodwyfe Lavender for heming and double-marking the table-cloths, and darning up some small holes in them," with which we will close the door of the linen-closet.

Let us pass on to the library, lest, like Master Anthony Gawdy, we should be accused of loitering over-long about the buttery hatch. In the half-year ending Michaelmas 1620, "Grauer the smith" got half-a-crown for taking off the chains that were

fastened to the books, and a scholar was paid 6d. for helping him—no doubt a labour of love. The next year we trace the "chaines and the iron barres y^e were taken from the bookes and of (f) the deskes" being carried up into the treasury, and the new order of things marked by a "figuring" of the printed books in the library to the number of 1742. In 1631 the MSS. were first catalogued; in 1650 the College contributed £20 towards the University Library then being established. The last entry relating to the library is the purchase in 1661 of an Anglo-Saxon Dictionary for two pounds, which the librarian has still to show for the money.

The parlour was refurnished in 1657 with a dozen Russian leather chairs at 7s. 6d. each, and three great chairs, £2. 8s., six "tulip velure" cushions, £1. 4s.; and three leather carpets containing 42 skins, which cost £3. 3s.; besides 12s. for packing. When Simkins the "Scavenger" had finished his sanitary work hard by, sedge and frankincense were burnt in the parlour to correct the resulting evil odours. The fuel burnt there in the winter of 1608-9 came to three pounds, and it was probably in that room that Dr. Caius' portrait hung, which was repaired at a charge of 13s. 4d. in 1636. As late as 1642 there were certain cushions extant (and in need of mending), which were known by the name of that worthy benefactor.

Perhaps the best known of the architectural works by Dr. Caius is the "Honor Gate," which was built, according to Fergusson, in 1574, from the designs of Theodore Have, of Cleves. It has been figured and described many times as the earliest specimen of so-called Greek architecture in England. In sober verity it is a picturesque *mélange* of debased Tudor style and prettily-applied classical pillars and ornaments. I am

able to trace some curious incidents of its early career, which, so far as I know, have not found their way into print hitherto. Its toy-like mouldings and delicate details were evidently singularly liable to fracture, as appears by several items of account.

But we must first notice an additional beauty it then possessed, of which no traces are now left. In 1615 the College paid "for coloring all the stone worke of Porta Honoris and gilding ye armes and roses there." At the same time a Pegasus, possibly an appendage to a sun-dial, had four pounds of lead expended to "fasten his basis," and was also gilt. In 1624 a new pillar at Honoris Gate cost eight shillings for stone and workmanship, which got broken again in 1631, and had to be set up afresh. The very next year one of the "Pyramides" of the gate had to be mended; unless one of the pediments is meant. I do not understand this, as there are no pyramids to be seen on any part of the structure now. It then enjoyed a rest till 1646, when Thomas Grombold, a freemason, had the job of new making and setting up one of its pillars. He also did some "plaster of paris" work in the chapel, and his moderate charge for his time and another's, three days, was only 10s. 6d. The lessons to be deduced seem to be that from the very first immoral Renaissance work (as a disciple of Mr. Ruskin would doubtless consider it) did not prosper, and that the students, who *must* have made the gate their clambering thoroughfare to surmount the walls by when locked out, were the unwitting instruments of this judgment.

In 1609 four pennyworth of frankincense was got for the chapel, perhaps for disinfecting purposes, as I do

not find the entry repeated. The communion cloths were made of diaper in 1619, and cost fifteen shillings each; in 1632 the "copwebbs" were swept out of the chapel, and Woodroffe, the joiner, did carving work there in 1634, and again in 1661, the last time to the amount of £7. 10s. In 1642 a much more expensive damask covering for the communion table was got, two yards coming to 24s. Finally, we notice in 1637 an expenditure of eighteen shillings for twelve brass candlesticks for the chapel.

In conclusion, let us see how the College practised what they learned in their Chapel, for the duties of charitable hospitality had not then entirely lapsed into disuse. Indeed, I should presume that the Steward dispensed refreshment to poor wayfarers pretty much as a matter of course, so that no special entry appears of these acts of kindness. At least this is the construction I put upon the item of five shillings given to "a distress'd Lady in the Steward's absence," which occurs in 1660. The next year a blind scholar, by the Master's order, received 10s., and the same sum was given in 1649 to "Barnabee Ame, heretofore a linen-draper, now growne very poore, by consent." The entry in 1621 of two shillings to "two poore women that weeded ye garden two dayes" will prove that the authorities were not unduly lavish in this branch of their expenditure.

Here we will close the Bursar's books of Gonville and Caius College, not refusing our admiration for the simple tastes and inexpensive habits of our forefathers as we find them recorded in those pages.—FRANCIS RYE, in *The Gentleman's Magazine*.

THE DUTIES OF THE TEACHER.*

BY GEORGE B. WARD, M.A., HEAD MASTER HIGH SCHOOL, BRIGHTON.

IT can scarcely be said that there is a profession of teaching in the same sense in which people speak of the profession of medicine or of law, for in these there are none but licensed practitioners who have had to submit to professional and legal requirements, while the same thing cannot be predicated of teachers, many of whom occupy positions as such without having passed any examinations in the science and art of teaching; and none of whom have submitted to the tests of a society or college of teachers or paid any license before entering upon their work. A change in this condition of things is gradually being accomplished. May the day be very near when there shall be a recognized profession of education!

Meanwhile it is satisfactory to note that while such a *régime* obtains in part, and the rest may soon be added, the spirit of the age and a keener insight into educational matters has made a great improvement upon the old generation of school-masters. Look at some of the points of reform. It is now next to useless for a man to apply for a position in a school, at least in Ontario, unless he can show that he has had experience in school-work. He may be the most brilliant graduate of his college, he may be backed by honours and prizes, but if he knows nothing of the principles and practice of Education, he must give way to one who may be less highly distinguished in the various branches of learning, but has the

reputation of being able to impart a little of what he knows, of being a good administrator, and of being a faithful guide to those entrusted to his care. Such a man watches with fidelity the various dispositions of his pupils and works in a different way with each, according to the differences discovered. Impatience is out of the question, for such watchfulness must be accompanied by the utmost self-restraint. With quick and clever pupils, it is very little credit to a man to keep his temper. The slow and timid children are the impediments which call for the exercise of patience, and it is with pupils of this class that the teacher of the present day can and does achieve his greatest triumphs. He is slow to anger, for he knows that anger is incompatible with power, and that when judiciously employed it is a mighty weapon for good to be used only in extreme cases. Sir Walter Raleigh says "a man must govern himself ere he be fit to govern a family." The wise teacher, knowing that a large school is one of the largest families, is very careful to act upon the aphorism. By self-government he works the greatest good, not merely by keeping all around him calm and smooth, but by setting an example that must ensure respect for him and is at the same time a most important factor of education.

The great mistake that many men make in taking to teaching lies in this, that they do not know themselves. They do not know what it is to control themselves, and when they find a number of obstreperous, disorderly children around them, they lose their

* A paper read at a District Meeting of East Northumberland Teachers. Brighton February 14th 1884.

self-control, become nervous, irritable, angry, and come to the mortifying conclusion that they must bid farewell to order and to the schoolroom. This is where the teacher who really knows his business has the advantage, for he is aware that on his conduct of himself and the example he sets, depends his success with his pupils. He has disciplined himself; he can discipline those under him, he can get the mind of the latter into perfect harmony with his own, and then he can go on with his work, teacher and pupils all taking a delight therein because everything is done "decently and in order."

That there may be as little friction as possible between his own mind and the minds of his pupils, the painstaking teacher adapts himself to the various dispositions around him. He makes a study of the peculiarities, capabilities, and weaknesses of those under his care. He cannot expect to do much good by treating them all alike. Hence he makes allowance for the timidity of one, the quick temper of a second, the impulsiveness of a third. He may have a stubborn boy to deal with, whom once upon a time it would have been considered the correct thing to flog. But that tended only to make the pupil more obstinate. To-day the teacher knows better and sees in such a boy one whom he can win over, not by driving but by leading. There may be a boy in the class who is inclined to play truant. This is one of the worst of subjects to have to deal with, but the prudent teacher does not resort to the services of a truant-officer until he has tried his own way of making the boy regular in his attendance. He knows that, if the truant once takes an interest in his studies, and has them presented to him in such a form as to find them agreeable to his tastes, the love thus kindled for what was once a most repulsive task will

be of much more value than any espionage of his movements.

Then there is the incorrigible, of whom his parents complain that he cannot be made or bribed to look at a book. The teacher sympathizes with the parents, smiles complacently as he thinks that the son may be nothing more than "a cup of the old block," and knowing the remedy for this case, looks forward to meeting the boy in a friendly encounter, out of which the book-hater shall come off second best. There is no boy so hopelessly dull but that he will take an interest in some kind of knowledge. The trouble is, he is too lazy or too ignorant to reach for it, and he has never been shown where he may obtain it. Take such a boy through some pages of history, for instance; present it to him in a way in which he has never looked at it before, give him word-pictures of some of the personages and events, so that he can fancy he sees these before him, and then cap the climax by letting him hear what Macaulay says about such things, and if the teacher is not gratified by hearing the exclamation, "That book must be interesting," it may be because the lad's emotion is too deep for utterance. The work is done, however, the boy's enthusiasm is kindled, he will lose little time in searching for himself, and as one thing leads to another, he will become interested not only in that particular branch of knowledge, but in many other branches, for he has begun to see that all knowledge is pleasant.

And so it is for every kind of disposition: there are different ways to be adopted in working with different minds, and while the modern teacher is doubtless put to much trouble in adopting various methods, he obtains his sure reward not only in finding a genuine interest in this variety, but in being instrumental in developing those various tastes and inclinations

which will fit their owners in the highest degree for their particular line of occupation.

Truly, the work of education is a grand work; and ill-fitted is he to carry it on who does not see its grandeur in its various lights, who does not find the many ways in which he can become interested in it, and who is blind to the fact that he can mould the lives of those entrusted to him not only for time but also for eternity.

Thus does the real educator endeavour to do his work, not content to cram his pupils with a certain amount of book learning every day, but busying himself in ascertaining what there is in their minds and drawing it out to a greater and greater capacity. He does not trouble himself to answer the ever-recurring question, *qui bono?* nor does he give way before the complaints of parents as they ask him, "What do you teach my child Euclid for?" or "What good is so much Latin going to do my boy?" or "What use is there in my girl studying Physiology or Astronomy?" He knows as well as they do that there is very little money value in these things. He knows that these things he teaches his pupils have their uses, each a special purpose in directing a given faculty of the mind, and that if the children were taught as some parents would have them taught, they would be cramped, one-sided, narrow-minded beings with no care or interest beyond their narrow surroundings.

And while he does all in his power to give the fullest development to the mind, the anxious teacher remembers that there is a moral nature to be directed. It is one of the misfortunes of the present system that by far the greater part of the pupil's time is spent where the teacher cannot reach him. Children are supposed to be under their parents' eyes, but too frequently they are playing in the street or some-

where away from home where evil influences are at work. Hence teachers are inclined to shirk the responsibility of moral education, for there is very much to discourage them in such work; but the educator who is fully alive to his labours under their various aspects cannot willingly forego his prerogative of guiding not only the mental training, but also the moral nature of his pupils. Hence he takes whatever opportunity may present itself, both in and out of the school-room, to enforce by example and by precept, the line of conduct becoming to his pupils. The leading principle in all instruction in morality is love for God and the love for His creatures, and if the teacher himself is keenly alive to his duty to God and his duty to his neighbour, the directing of his pupils' morals will be to him an easy matter. But pity be to him who, being without these essentials, seeks his occupation in the school-room. Let such an one talk never so eloquently on "the good and the beautiful," if he do not practice righteousness himself, his talking may be worse than useless; it may be pernicious.

If, for instance, he loses his temper every half-hour, or under the impulse of anger strikes a boy, how can he expect his pupils to show any but bad dispositions, or to be respectful to himself or courteous to one another? The "Ten Commandments" may occupy a conspicuous place in his school, but if they do not find a place in his heart, surely violation of them on his part cannot lead to aught but disobedience of his pupils to the will of the Almighty.

I have before alluded to the similarity between the school and the family. Now if the head of the family breaks the Sabbath, the children will do the same; and so, if the teacher commits murder in his heart, he will find his pupils breaking the sixth commandment in various ways.

The way to instil into his pupils the great principle of love, which is the foundation of their duty to their fellow creatures, is to himself exercise a loving and courteous demeanour towards them.

I may by the way remark that it is a very strange thing that in governing a school teachers resort to all kinds of expedients to ensure order, harsh words, threats, and the rod, and that they forget the grand power of love—the power which surrendered a life, that humanity might be redeemed from its corrupt nature—that power which must one day restore all things. There is one point in which teachers fail signally; I mean in their efforts to obtain truthfulness. The general principle, that example is more powerful than precept, holds good here. It might surprise some teachers to be told that they, in part, are to blame for this fault, that they are themselves untruthful. But such undoubtedly is the case. There are very few that are not susceptible to the pride of learning. When a class has been listening with admiration to all that a teacher has to say on a certain subject, and all of a sudden one eager inquirer asks a question, the answer to which requires some pre-meditation, it is a sore temptation to try and answer it off hand. The teacher yields and thus pretends to more knowledge than he possesses. He repeats the offence, and sooner or later he is found out. And what is the effect of the detection of his dishonesty on his pupils? Let any one who knows the force of example answer this.

As the teacher feels his responsi-

bility, as he would make honest men and women of those entrusted to his care, let him be most scrupulous in every word and deed. Let him set the example in all good and the best part of his instruction in morality will have been accomplished.

But not only does the school-room require the teacher's presence, he should be in the playground also with his pupils. He should demand and encourage physical exercise. Most pupils do not wait to hear any demand made of them in this respect. But there are some that need urging. Activity is natural to youth, and if boys do not take a due amount of exercise it may be presumed that there is something wrong with their physical or their moral nature, or else the boys are so inordinately fond of their books that an unhealthy condition of body has been or is likely to be set up. In all these cases it behoves the teacher to show the necessity for outdoor exercise. And even when all his pupils may take naturally and kindly to sports, he ought to be with them, not as a "wet blanket," but as one of themselves, a feeling that he requires exercise as much as they do, and that in the playground he will have an opportunity of instructing in morality by checking the profane words or the rising quarrel. His patronage of their play will make the pupils feel that he is indeed their friend, their director in mental culture; and his guidance in morality in the school-room will have more weight, and so will the teacher be aiding in the grand result of

"A sound mind in a sound body."

GRAMMAR OR NO GRAMMAR,—This is the question! The subject as ordinarily taught is not worth the time and effort. It is not entirely worthless; but better knowledge of how to use language may be obtained from other kinds of language-study. As a means of training in logical thought, grammar is

greatly inferior to almost any other subject, since so much of it consists of mere formal division into classes and sub-classes on an arbitrary basis, of whole and part. It neglects, as commonly taught, the elements of observation and explanation, and consequently the logical relations of quality and cause.

UNIVERSITY WORK.

MATHEMATICS.

ARCHIBALD MACMURCHY, M.A., TORONTO,
EDITOR.SOLUTIONS TO PROBLEMS IN
FEBRUARY NO.

J. L. Cox, B.A.

$$\begin{aligned}
 1. \quad & 4 + 17 + 54 + 145 + 368 \dots \\
 & = (1^3 + 3) + (2^3 + 9) + (3^3 + 27) \dots \\
 & \qquad \qquad \qquad + (n^3 + 3^n) \\
 & = 1^3 + 2^3 \dots + n^3 \\
 & \qquad \qquad \qquad + (3 + 9 + \dots + 3^n) \\
 & = \left\{ \frac{n(n+1)}{2} \right\}^2 + \frac{3^{n+1} - 3}{2}.
 \end{aligned}$$

$$\begin{aligned}
 2. \quad & 4 - 14 + 117 - 632 + 3913, \text{ etc.}, \\
 & = (1^2 + 3) + (2^2 - 18) + (3^2 + 108) + (4^2 - 632) \\
 & = 1^2 + 2^2 + 3^2 + \dots + 4^2 + (3 - 18 + 108 \dots) \\
 & = \frac{n(n+1)(2n+1)}{6} + \frac{3[(-6)^n - 1]}{-7} = \text{etc.}
 \end{aligned}$$

$$\begin{aligned}
 3. \quad & 3 - 1 + 27 - 41 + 179 - \text{etc.}, \\
 & = (1 + 2) + (5 - 6) + (9 + 18) + (13 - 54) + \dots \\
 & = 1 + 5 + 9 + 13 \dots \\
 & \qquad \qquad \qquad + (2 - 6 + 18 - 54 \dots) = \text{etc.}
 \end{aligned}$$

$$\begin{aligned}
 4. \quad & 2 + 12 + 36 + 80 + 150 + \text{etc.} \\
 n^{\text{th}} \text{ term} & = n^2 + n^3, \\
 \therefore \text{ sum} & = \frac{n(n+1)(2n+1)}{6} + \left\{ \frac{n(n+1)}{2} \right\}^2.
 \end{aligned}$$

$$\begin{aligned}
 5. \quad & -4 + 3 + 22 + 59 + 120 + \text{etc.} \\
 n^{\text{th}} \text{ term} & = n^3 - 5, \\
 \therefore \text{ sum} & = \left\{ \frac{n(n+1)}{2} \right\}^2 - 5n.
 \end{aligned}$$

$$\begin{aligned}
 6. \quad & 3 + 13 + 25 + 41 + 65 + \text{etc.}, \\
 & = (2 + 1) + (2^2 + 9) + (2^3 + 17) + (2^4 + 25) + \dots \\
 & = (2 + 2^2 + \dots + 2^n) + (1 + 9 + 17 + 25 + \dots) \\
 & = 2^{n+1} - 2 + \frac{n}{2} [2 + (n-1)8].
 \end{aligned}$$

7. Let A and B be the given points, and $KDFC$ given circle. Describe a circle through A and B cutting the given circle in C and D ; join CD and AB , and produce

them to meet in E . From E draw EF , touching the given circle in F . Describe a circle through AB and F —this is the required circle. For $AE, EB = CE, ED = EF^2$; $\therefore EF$ touches circle BFA .

HYDROSTATICS.

A contributor asks for solutions to following problems:—

1. A hollow cylinder closed at both ends is filled with water and held with its axis horizontal; if the whole pressure on its surface, including the plane ends, be three times the weight of the water, compare the height and diameter of the cylinder.

2. Find whole pressure on an equilateral triangle immersed in water whose side is 8 feet and vertex 10 inches below the surface, the base being horizontal.

3. A pipe 15 feet long closed at the upper extremity is placed vertically in a tank of the same height; the tank is then filled with water; if the height of the water-barometer be 33 feet 9 inches, determine how high the water will rise in the pipe.

ARITHMETICAL PROBLEMS.

By L. B. Davidson, Head Master Public School, Glenallan.

1. (a) $2 \times 4 = 08.$

Prove the rule for placing the decimal point in the product.

(b) Simplify:

$$\frac{\frac{7}{4 - \frac{5}{8}} - \frac{5}{6 - \frac{3}{4}} - \frac{18}{13} - \frac{8}{9} \text{ of } \frac{8}{19}}{\frac{4}{7 - \frac{3}{4}} + \frac{2}{4 - \frac{3}{8}} + 03} \times 999.01.$$

Ans. 0.

2. The product of five consecutive numbers is 2520. Find the middle number.

Ans. 5.

3. The H.C.F. of three numbers is 41;

the L.C.M. of the same numbers is 63468; the third number is 1763; the second number is three times the first number. Find the first number. *Ans.* 492.

4. A fruiterer bought oranges at 5 for 15 cents, and half as many at 6 for 20 cents. He mixed them and sold the whole at 5 for 18 cents, thus gaining \$2.20. How many oranges did he buy? *Ans.* 450.

5. Find within five-ninths of a cent the value of the following bill in sterling:—

15 yards tweed at 5s. 6½d. per yard; 45 yards silk at 6s. 3¾d. per yard; 1½ doz. silk handkerchiefs at £2 os. 2¾d. per doz.; 2 pieces cotton—50 yards and 45 yards—at 3¾d. per yard. *Ans.* \$109.90.

6. A sum of \$12 60 was raised among the pupils of a certain school. Two of the pupils gave 50 cents each; of the remainder one-third gave 20 cents each; half as many again gave 25 cents each; and the rest gave 30 cents each. Find the number of pupils in the school. *Ans.* 50.

7. A drover bought cows at \$30; sheep at \$6.25, and pigs at \$5.50; paying in all \$1700. There were 5½ times as many sheep, and 3¾ times as many pigs as cows. How many pigs did he buy? *Ans.* 75.

8. A banker has \$1980 in bills, consisting of "twenties," "tens," "fives," "twos," and "ones," and the ratio of the amounts in each is as the numbers 3, 4, 1½, 1, ½, respectively. How many "twos" has he. *Ans.* 100.

9. A grocer mixes 15 lbs. coffee worth 40 cents per lb., with 12½ lbs. worth 30 cents per lb., and sells the mixture at 34½ cents per lb., using "a pound weight" ¼ oz. too "light." Find his gain. *Ans.* 15 cts.

10. *A* and *B* run a race of 1320 yards. *A* runs at a uniform rate of 2 miles in 11 mins. *B* runs at the rate of 22 yards in 3 secs., but after going ¼ of the distance is obliged to reduce his speed by ¼ of his usual rate. Which wins?

Ans. *A* wins by 4½½ secs.

11. A woman bought 10 lbs. of sugar and then the grocer "threw in" 1 lb., by which

the average cost per lb. was reduced by ¼ of a cent. Find the amount of the sale.

Ans. \$1.

12. A farmer keeps 75 acres of land under cultivation for every 3 horses that he has, and allows 10 acres of pasturage for every 2 horses. How many teams can he afford to keep on a farm of 120 acres? *Ans.* 2.

13. A kind of brass is made by fusing together old brass, copper and zinc in the ratio of 4, 5, 6, respectively, the whole amounting to 56 lbs. After allowing ¼ for waste, the mixture is worth 20 cents per lb., less \$1.76. If brass is worth 7 times, and copper 5 times as much as zinc, find the value of copper per lb. *Ans.* 20 cents.

14. A boy lives with a farmer for 30 days on condition that for every day he works he shall receive 75 cents, but for every day he is idle he shall forfeit 25 cents for his board. Upon the expiration of the 30 days he receives \$16.50. How many days did he lose? *Ans.* 6.

15. An oarsman rowed from *A* to *B* in 3½ hours, and being fatigued was obliged to diminish his regular rate by ½ in returning, thus going from *B* to *A* in 7½ hours. Compare his rate with that of the stream.

Ans. 3:1.

16. A person pays on his income a school rate of 4 mills on \$1, and then on the remainder a general purpose rate of 5 mills on \$1. The whole tax amounts to \$33.67½ after allowing the collector 6½ cents on every dollar collected. Find the person's gross income. *Ans.* \$4000.

17. A stage leaves Glenallan for Berlin at 4.45 a.m., making 6 miles per hour, not including a stoppage of 30 mins. in the middle of the journey, both in going and returning. After spending 3 hours in Berlin the stage sets out upon its return at its usual rate, but after travelling ½ the regular distance it is compelled not only to diminish its rate by ⅓ of a mile per hour, but also to go 3 miles out of its regular route, by this means arriving at its destination at 6 p.m. Find the distance between Glenallan and Berlin.

Ans. 25 miles.

CLASSICS.

G. H. ROBINSON, M.A., TORONTO, EDITOR.

UNIVERSITY OF LONDON.

JANUARY, 1884.

MATRICULATION EXAMINATION.

GREEK.

Examiners—James S. Reid, Esq., LL.M., M.A., Dr. Leonard Schmitz, F.R.S.E.I. Homer: *Odyssey* Book VII.

Translate into English:

A.

πειτήκοντα δέ . . .
 . . . ἀμφοτέρωθεν.

B.

ἔνθα κέ . . . κατέλεξα.

II. Grammar.

1. Decline throughout γέρον ἀμελής, μέλαινα νύξ, λέων κεκραγώς.

2. Write the following words according to their Homeric forms, viz.: (a) dative feminine plural of ὤκεις; (b) dative feminine plural of δέπας; (c) second aorist infinitive active of ἐπιβαίω; (d) third person singular perfect indicative of ἔρχομαι; (e) second person singular second aorist subjunctive of ἰκνέομαι; (f) third person singular second aorist indicative active of τίκτω.

3. Parse ἀμρότα, δειδέχεται, φάν, βεβλήατο, σφέας, φαινομένηφι, ἔσσει, ἦμβροτεν.

4. Name the prepositions which govern three cases, and show how their meanings differ according to the case they govern.

5. Explain the ordinary constructions taken by ἵνα, εἴθε, ὅποτε, καίπερ.

6. What ways are there in Greek of expressing the words "Do not do this?"

III. History and Geography.

1. How far is the geography of the wanderings of Odysseus imaginary?

2. Illustrate Homer's account of the civilization of the Phæacians from the facts now

ascertained with regard to the pre-historic Greek culture.

3. State any reasons that have been advanced for thinking that the *Odyssey* came into existence at a different time from the *Iliad*, and in a different state of society.

4. What is known of the commerce of the Mediterranean at the earliest time to which our knowledge extends?

IV. Passages from books not previously mentioned:—

1. ἐγὼ δ' ἴσον θεῶσιν ἡγοῦμαι φίλον.
 ἐν τοῖς ἐμοῖς γὰρ οὐκ ἐτίβισσας
 κακοῖς.
 μεγάλῃ δὲ θνητοῖς μοῖρα, συμφορᾶς
 κακῆς
 ἱατρὸν εἶρεῖν, ὡς ἐγὼ σὲ καμβάνω.

2. ἦν φοβερὸς ἐν Σάμῳ Πολυκρήτης
 τύραννος, ἦν ἐν Κορίνθῳ Περίανδρος, ἀλλ'
 οἷδεις ἐφοβέετο τοὺτους μεταστὰς εἰς
 πόλιν ἐλευθέραν καὶ δημοκρατουμένην.
 ὁ δὲ τὴν τῶν θεῶν ἀρχὴν φοβούμενος ὡς
 τυραννίδα σκυθρωπήν καὶ ἀπαραίτητον
 ποῖ μεταστῆ ποῖ φήγη, ποίαν γῆν ἄθεον
 εἶρη, ποίαν θάλασσαν.

3. μῆλα δὲ πιεζόμενοι οἱ Θηβαῖοι
 σπᾶνε σίτον διὰ τὸ δυοῖν ἐτοῖν μὴ
 εἰληφέναι καρπὸν ἐκ τῆς γῆς, πέμπουσιν
 ἐπὶ δυοῖν τριήρου ἄνδρας εἰς Παιασιᾶς
 ἐπὶ σίτον δέκα τάλαντα δόντες.

MODERN LANGUAGES.

JOHN SEATH, B.A., ST. CATHARINES, EDITOR.

NOTE.—The Editor of this Department will feel obliged if teachers and others send him a statement of such difficulties in English History, or Moderns, as they may wish to see discussed. He will also be glad to receive Examination Papers in the work of the current year.

QUESTIONS.

(By a Correspondent.)

1. In analyzing this sentence is it correct to call "will" a verb of incomplete predication, and then class "go" as its complement?

"I will go out."

2. Which is the true complement of the verb "to be" in these sentences? or rather, which is the true passive?

"He will be killed by the wolves."

"He will be killed in the morning."

3. Which is correct: "Want of me," or "Want with me?"

4. Please explain the term "chemically clean."

5. In the analysis set for the First Class Examinations last summer (Paradise Lost, Bk. I.), how would you arrange the part commencing with "O myriads . . ." down to "Almighty?"

6. Is not "for" in the tenth line a subordinate conjunction?—S.H.B.

ANSWERS.

1. The verbs in both "I will go" and "I shall go" are futures, unless the "will" and "go" are unemphatic; but "I shall go" implies the simple futurity of the act, and "I will go," the additional idea of the act being dependent on the will of the subject. When, however, in "I will go," "will" is emphatic, thus becoming notional and meaning "am resolved," it is a verb of incomplete predication, "go" being its infinitive complement.

2. The meaning of these sentences would be very unusual if the verbs in both were not true passives. The mere fact of the agent being omitted in the second, does not alter the transitive nature of the verb. By an unnecessary stretch of usage, both might be regarded as complete predicates. "Killed by the wolves" in the first, and "Killed in the morning," in the second, directing the condition of the subject. When, however, these meanings are intended, the sentences should be differently constructed.

3. "Want of me" is the correct form.

4. This will be answered by Editor of Natural Science Department.

5. The full analysis of the First Class Papers for 1883 has already been published in this Department.

6. The construction of "for" in l. 10 of this sentence for analysis was explained in the September number.

ENGLISH GRAMMAR, FIRST CLASS.

1. My way of life
Is fallen into the sear and yellow leaf;
And that which *should accompany* old age,
As honour, love, obedience, troops of friends,
I must not look to have; but, in their stead,
Curses, not loud *but* deep, mouth-honour,
breatn,
Which the poor heart *would fain deny* and dare not.

(a) Analyse fully the preceding extract.

(b) Parse fully the italicized words.

2. What is meant by a conditional sentence? Point out the distinction in meaning between

"If you go at once, you may be in time," and

"If you went at once, you might be in time."

3. What are the internal and external evidences that English is a composite language?

4. State, with examples, reasons for the diversity in the pronunciation, in English, of syllables or parts of syllables spelt in the same way.

5. Distinguish clearly between the adjective and the participle; the relative pronoun and the subordinate conjunction; and the gerund, the verbal noun, and the participle.

6. Where there are such forms as gerunds, participles, adverbial conjunctions, etc., why are words regarded as divisible into eight classes?

7. Explain clearly the following grammatical terms:—"Governed by," "agreeing with," "depending on," "used absolutely," and "grammatical relation."

8. Explain clearly the use of the italicized words in the following:—

(a) Did you see him? *Not that* I recollect.
(b) *Not but what* he might be wrong. (c) *But for* you, we should have failed. (d) This is *more than ridiculous*; it is immoral. (e) This is the reason *that* I sent for you. (f) It was owing to you *that* I failed. (g) He is the oldest man *that* I know.

UNIVERSITY OF LONDON.

JANUARY, 1884.

MATRICULATION EXAMINATION.

FRENCH.

Examiners—B. P. Buisson, Esq., M.A.; Prof. Charles Cassal, LL.D.

I. Translate into English *Two*, and not more than *Two*, of the following passages:—

A.—LE VÉSUVÉ.

Au pied du Vésuve, la campagne est la plus belle et la mieux cultivée que l'on puisse trouver dans le royaume de Naples, c'est-à-dire dans la contrée de l'Europe la plus favorisée du ciel. La vigne célèbre dont le vin est appelé *Lacryma Christi* se trouve dans cet endroit, et tout à côté des terres dévastées par la lave. On dirait que la nature a fait un dernier effort en ce lieu voisin du volcan, et s'est parée de ses plus beaux dons avant de périr. A mesure que l'on s'élève, on découvre, en se retournant, Naples et l'admirable pays qui l'environne; les rayons du soleil font scintiller la mer comme des pierres précieuses; mais toute la splendeur de la création s'éteint par degrés jusqu'à la terre de cendre et de fumée qui annonce d'avance l'approche du volcan. Les laves des années précédentes tracent sur le sol leur large et noir sillon; et tout est aride autour d'elles. A une certaine hauteur, les oiseaux ne volent plus; à telle autre, les plantes deviennent très rares; puis les insectes mêmes ne trouvent plus rien pour subsister dans cette nature consumée. Enfin, tout ce qui a vie disparaît; vous entrez dans l'empire de la mort, et la cendre de cette terre pulvérisée roule seule sous vos pieds mal affermis.

Jamais ni le berger ni le pasteur ne conduisent en ce lieu ni leurs brebis ni leurs troupeaux.—*Mme. de Staël*.

(Extract B. from Quinet, and extract C. from Gréard, are omitted.)

II. Grammar.

1. *Dirait, fait, s'élève, découvre, devient.* Give the first person singular and plural of those verbs in the preterit definite and indefinite, interrogatively.

2. "*Tracent sur le sol.*" What have you to notice about the conjugation of verbs in *cer, ger, eler, eter*? Give the first person singular and plural of the indicative present of *crever, ployer, payer*.

3. Put the following sentences in the plural: "*Son instinct la guide*"—"son goût ne diffère pas de celui de l'homme."—"Quand l'âne boit il n'enfoncé pas son nez dans l'eau, parce qu'il a peur de l'ombre de ses oreilles."—"Tu crois tromper ton voisin, c'est lui qui te trompe."

4. Account for the circumflex accent in the words *âme, maîtresse, blâme, reçût, fût, même, être*.

5. *Sans porter atteinte.* Which is the preposition which does not govern the infinitive in French? Give the respective French meanings of the prepositions *before, after, behind, except, in spite of, beyond, during, without, according to, towards*.

6. How are *nu* and *demi* written before a substantive? Translate *barefooted, bare-headed, half an hour, an hour and a half*.

7. *Flamme, pont, meuble, porte, genou, pied, main, doigt, nuit, feuille, souvenir.* State the gender of those words, and say what helps you to ascertain it.

8. Give the list of the first twenty-one ordinal adjectives. Translate: "*Louis the Fourteenth, Charles the Fifth, Francis the Second, Henry the Fourth, Charles the Fifth (of Spain); a third person; on the fourth of June; three-fourths; two-thirds.*"

CHEAPNESS NOT APPRECIATED.—There are those who, starting with the fact that it is right to purchase land, build and equip buildings, employ teachers, etc., at the public expense, hold that free text-books logically follow; and the argument is a strong one, considered abstractly, but more so when we take into the account the great burden imposed upon many families of limited means, but with large numbers of children to

furnish school-books. Again, there are those who think the public treasury is burdened to its utmost limit in the cause of public education; and there are still others with whom, for various reasons, among which is the excellent working of the deposit system in our evening schools, I have come to sympathize with those who think the cheapening of a public privilege takes away much of its value.—*Supt. J. L. Brewster, of Lawrence.*

NATURAL SCIENCE.

H. B. SPOTTON, M.A., BARRIE, EDITOR.

THE INDUCTIVE METHOD.

THE last Report of the Minister of Education contains some seasonable observations by the senior Inspector of High Schools on the question of science-teaching. The Inspector's views are entirely in accord with the expressed opinions of the High School masters themselves, and he may feel assured of their co-operation in any efforts to place science-teaching in the schools upon a correct basis. The necessity for advocating the claims of science to a place in the school curriculum has happily passed away. These claims are now everywhere admitted, and in every enlightened country more or less successful attempts have been made to give practical effect to the conclusions arrived at. So far as our Province is concerned, the results have not hitherto been such as to satisfy the highest expectations, and Dr. McLellan remarks that "the difficulty is to find teachers who can teach it (science) on the principles of experiment and induction." This is, no doubt, the real trouble; and it is a trouble not confined to the teachers of this Province. It is a trouble which has not yet been altogether surmounted in any country where the teaching of science has been introduced into the elementary and secondary schools. With increased experience, and increased effectiveness in the arrangements for the professional training of teachers, the difficulty will doubtless gradually disappear. In the meantime, it may serve a useful purpose to enquire—what is the inductive method? What are these correct principles upon which alone science-teaching, to be worth the name, must be based?

We may at once assume that the object of science-teaching in schools ought not to be to merely give the pupil a certain definite amount of ready-made scientific information—to merely burden his memory with names

and classifications; but ought to be, above everything, to awaken his intellectual activity, and to cultivate and strengthen accuracy of observation, and accuracy in expressing and collating the results of observation; in a word, to teach him to think, and to put him in the way of acquiring knowledge for himself. There is, no doubt, a tendency on the part of inexperienced teachers to administer doses of ready-made knowledge, forgetful of the process by which they themselves acquired it, and not making due allowance for the undeveloped condition of the minds of their pupils. This course, whilst easy for the teacher, is fatal to the intellectual life of the pupil. As an acute observer aptly puts it, "one gets on faster with a child by carrying it, but it is for the child's interest to teach it to walk by itself." It is the object of the inductive method "to teach the child to walk by itself." It demands that we shall not commence with laws, but with observations of individual things, and that, as such observations accumulate, we shall compare them together and note resemblances and differences between the things observed, and thus gradually, but surely and clearly, lead up from the scattered facts of observation to systematic or general ideas. A very good and concise exposition of the method is contained in the following quotation from one of Tyndall's charming lectures on Heat: "It is my first duty to make you acquainted with some of the instruments intended to be employed in the examination of this question. . . . I am anxious that you should see, with your own eyes, the facts upon which our subsequent philosophy is to be based. I wish to give you the material on which an independent judgment may be founded; to enable you to reason as I reason if you deem me right, to correct me if I go astray, and to censure me if you find me dealing unfairly with my subject." The

authors of the series of science primers, also, (Professors Roscoe, Huxley, and Bal-four Stewart) convey the same idea in the following extract from the preface to their chemistry primer: "They (the authors) feel that the thing to be aimed at is, not so much to give information, as to endeavour to discipline the mind in a way which has not hitherto been customary, by bringing it in immediate contact with Nature herself." Contrast with these enlightened views the boyish experience of Dr. Bradley, the present Dean of Westminster, and one of the foremost of English educators, as detailed in a paper of great interest in the current number of the *Nineteenth Century*. It is true that his experience does not relate to the teaching of science, but of Latin, but the illustration is equally good. "But the day soon came, the inevitable day, when it became part of our work to learn by heart those parts of the Latin Grammar, the Syntax, the *As in presenti*, the *propria quæ maribus*, which, from the time of the Reformation onwards, had formed the main pabulum of the English school-boy. I will not dilate on the labour it involved, nor on the value of the work it displaced, nor on the aversion that it inspired in one at least of those young students. I can hardly understand how a system which called on boys to commit to memory page after page of rules drawn up in somewhat barbarous Latin, and learned, in my own case, I feel sure, without a word of comment, illustration, or explanation, *to do this, moreover, long before they had advanced sufficiently far for more than a very few of those rules to correspond with anything that had ever fallen under their own observation*, can have held its ground for over three centuries, and can find staunch defenders even now." But this gloomy period passed away, and the embryo Dean entered a school "at the head of which was placed a young man then fresh from high mathematical honours at Cambridge, full of fire, enthusiasm, and original ability. I shall not undertake to describe fully the reform, not the bit by bit, but the radical, the entire reform, which he worked in the system under which we had been thus

far taught. He took, I remember, the bold step of flinging, not without some audacious words of iconoclastic ridicule, our Latin syntax to the winds, and substituting a few, a very few, rules that he gave us on a black-board, which now for the first time became one of the instruments of our education. He, first of all, at a time when the real study of comparative philology was almost unknown in England, gave us some glimpses into what I may call the science of language. *He taught us to try to group together facts for ourselves, and to form laws from what we observed and met.*" Here is the true method so clearly indicated that he who runs may read.

It is legitimate to consider in connection with the question of how to teach science, the almost equally important question of what to teach first. Of all natural objects there can be no doubt whatever that plants are the most suitable for the young observer to begin with. They are naturally attractive to the young, and they can be had everywhere without cost, and in sufficient abundance to enable every pupil of a class to handle and examine a specimen for himself, one of the very first essentials to the successful pursuit of elementary scientific knowledge. If it be objected that satisfactory lessons on plants can only be given during the summer, it may be answered that while this is true to some extent, very valuable lessons may be given in winter upon particular parts of plants—leaves, fruits, and seeds, for example—of which there should be a good supply in every school in which object lessons form part of the work. The instructor should here be warned, however, that it would be a mistake, in setting out upon a course of lessons on plants, to begin at random with any species that might first come to hand. Here the teacher's knowledge and skill must be utilized in the selection of the simpler forms of structure to begin with, and out of the multitude of representative species everywhere within reach, those must be selected which are typical of the more important orders only of each class. The time which can be devoted to this or any other subject in school is usually limited, and if too great

a variety of information be aimed at, the great object, that of teaching the pupil *how to acquire knowledge*, will be lost sight of.

As plants, with their infinite variety of forms, are unquestionably the most suitable objects for the youthful scientist to begin upon, so would seem to follow in logical order the study of natural history proper; of physics, in which would be examined the effects of forces on bodies without altering their substance; then of chemistry, which is complicated because of the essential change which the forces act produce in the bodies acted upon.

It is not unusual to find teachers who understand and apply the inductive method, committing the mistake of themselves describing the objects or phenomena under examination, instead of allowing their pupils to do so. It is needless to say that the teacher of science should himself be a good observer and a fair draughtsman, and should be able to describe accurately and reason correctly about the objects examined, and the phenomena observed, but these powers should be used rather to check and guide his pupils than to save them trouble, however great may be the temptation to "get on" by so doing. Nothing, in fact, is of greater importance than to insist that the young observer shall set down (with drawings as often as possible) the results of his observations. This is the only way in which the teacher can ascertain that the object of the examination has been attained. Every one

knows that a trained observer will detect what would entirely escape the notice of one without training, and it is precisely to discover how this training is progressing that the observer must be compelled to describe what he has seen. It is obvious, also, that the habits of accuracy in describing, which, under good guidance, are thus formed, must tend to develop accuracy in the use of language generally—that this "translation out of nature into one's own speech" is in itself a language lesson of no mean order.

These remarks cannot be better closed than with the following pregnant words from the article above referred to by the Dean of Westminster: "In teaching science, history, the English language, nay, in training the young child to read aloud, or in imparting the first rudiments of religious knowledge, there will always be the same danger; the tendency to allow dead and mechanical toil to take the place of the living and fruitful work on the part both of the teacher and of the pupil. It is so easy to be contented with outside results, and not to look below the surface; it is so difficult to go down to the level of the young mind, and rouse, and stir, and coax, and tempt it to think, and work, and give real and full play and exercise to its faculties. . . . Yet to train or win his pupils to take pleasure in such active exercise, is surely the very first aim, as it is the main mark and note, of the good teacher."—H. B. S.

SCHOOL WORK.

DAVID BOYLE, TORONTO, EDITOR.

THE MASSACHUSETTS EXPERIMENT IN EDUCATION.

BY CHARLES BARNARD.

(Continued from page 132.)

With all the lessons that have been described there is at frequent intervals a story or some exercise to change the current of the thoughts. Not all these lessons can be seen

in one day or in one school. They are only typical lessons as seen by the writer in different primary schools in Boston, Dedham, and Quincy.

If there is any one thing over which the children of the United States have shed floods of useless tears, it is the "Tables of Weights and Measures" in the ancient arithmetics. Here is a new set of miser-

ables just come to the edge of these horrid tables. Shall they go on in the same unhappy way, trying to say "two pints make one quart," or shall they see the things, and, half in sport, learn the easy lesson? After the lesson they can glibly recite the table, because they have seen what it means.

Here are the tin and wooden measures, with a pail of water and a bushel of bran ranged on the table before the class. The teacher holds up the smallest tin measure and asks what it is. Some say it is a quart, others a pint. After some delay it is decided to be a gill. "Can any one spell it or write it on the board?" This is done, and the next step is to experiment with the measure. One of the girls fills it with water and makes a statement about it: "I have one gill of water." Having obtained a unit of measure, the next is taken, and the pint is considered by filling it with water, by means of the gill measure, and counting the number of gills required to fill it. For dry measure, the bran is used instead of water.

This class are from nine to twelve years old. They are in the upper primary classes, and have already spent two or three years at school. It might be thought that they would not care for such methods of instruction. It does not so appear. There is the same alertness of attention, the same eagerness to tell a story or to express themselves, as in the youngest children, with perhaps a little less playfulness and more gravity.

A class in geography is studying the shape, surface, and the general features of the continent of Australia. One of the class is appointed to act as its scribe, and write out the facts as learned. The pupils are supposed to have read their books, and are up now for examination. On the table before the class is a pile of brown moulding sand. The first step is to spell the name Australia. This, it may be remarked, is the constant practice—to spell all the important words of the lesson as it proceeds, the correct spelling being at the same time written on the board by the scribe. The study of the shape of Australia, its surface, mountain ranges, and plains, is performed entirely with the moulding sand. Each pupil volunteers a fact concerning the matter,

and illustrates it in the heap of sand. First the general outline, then the capes, bays, etc., then the mountain ranges, plains, etc. If any one makes a mistake, either in describing the thing or in arranging the sand, there is a vote taken to see if the majority of the class can correct the error. By the end of the lesson a complete relief map has been constructed in sand on the table. Every subject in geography, the divisions of land and water, etc., that can be shown by a plan or map, is illustrated on the table, in the sand or with modelling clay. The child is not told to read in a book that "an island is a portion of land entirely surrounded by water." These children are given a lump of clay and instructed to make an island of clay on the table, and then to cover the top of the table (it is really a shallow tank) with water, to show that the island is really surrounded by water. In some schools the table is painted blue to represent the water, and the brown sand aptly indicates the land.

As with the weights and measures, so the measures of length are studied by means of tape stretched along the wall. Upon this tape the pupils measure off the foot, the yard, the rod. Each child is provided with a foot-rule as a part of his school apparatus, and it is frequently used in the various lessons. The study of the rod and yard grows out of this, and they get—what no one who merely learns by rote that "twelve inches make one foot, three feet one yard," etc., ever can get—an exact and real idea of the yard and rod. From this tape the teacher readily brings out a lesson in numbers. For instance, she writes on the board: "If I paid nine dollars for eighteen feet of land, how much did three yards cost?" The pupils see the foot and yard plainly marked off on the tape. They have a realizing sense of the comparative lengths, and this assists the mental process required to solve the question. In fact, all arithmetical problems can be taught by the blocks, the wet and dry measures, the rules and tapes, without once referring to a book. In point of fact, it does not appear advisable to use books at all, but to study numbers from objects, or by means of the board, or stories of imaginary transactions from real life.

The study of numbers is confined to the first four rules, simple fractions, and perhaps interest. This carries the pupil about half way through the Grammar school, and it covers all that is required in ordinary business transactions. The tables, addition, multiplication, weights etc., are in time all learned, but they are placed last, and not first. I heard a teacher recite rapidly a series of sums in this way: "I had six apples, I took one away, added five, divided by two, squared them, gave away five, lost one, sold two, bought ten and five and four and three, and lost seven, and divided them all with Kate and Jenny and Tommy and Jack and Ned. How many did they have, and how many were left?" For about thirty seconds there was a pause, and then one called out that he had it, and then another and another, till all said they had solved the problem. Perhaps a whole minute elapsed, and then, on calling on one scholar for the answer, it was put to the vote of the school whether or not the answer was right. While there may be nothing specially novel in this method of teaching, this point must be observed: These children had been wholly instructed by the new methods. They were probably weak on the "tables," or in the mere parrot-like recitation of formulas, yet they displayed a degree of quickness, readiness of memory, comprehension, and reasoning that was remarkable. With shorter questions involving, say, two sums in one rapidly spoken sentence, the answers came in a volley from the class the instant the sentence was finished, showing that the mental processes had been just as rapid as the spoken words.

It is said that the majority of public-school children leave school when about half-way through the Grammar school. The question is, Does this objective teaching fit or unfit the boy for his probable position in life? Is this the best schooling for the poor man's child? Without venturing our final opinion, it may be observed that the aims of the system are in the right direction, and that all the aims are more or less thoroughly accomplished. First of all, the child must be happy. He must be at ease and pleased with his work,

or little will be learned, and the training will be slight. The child has senses through which he receives all he can know, and makes known the thought that is in him. His senses must be trained by use; hence the games, the blocks, the colours, the music, pictures, and real objects. Imagination is, perhaps, the most valuable mental quality given to human beings: it must be cultivated continually, that the mind may work quickly and surely. This is the aim of the continual story-telling, the imaginary sums and the use of pictures. The studies are very limited, because reading, writing and arithmetic are the tools with which the work of the world is performed. These are enough for the boy or girl who must leave school before the grammar term is over. If he has these, the world of work and learning is all before him. It has been said that the boy taken from these schools and made an entry clerk will be a failure, because, while he is quick of observation, lively of imagination, and learned in a thousand things of the fields, the woods, and the sea, his business is to take the numbers from bales and boxes correctly. This is all that is required, and all the rest is useless. This may be true in a certain sense. Let us wait twenty years and see where the boy will be. Will he be still an entry clerk, or a merchant? In mechanical trades there is a fear that such teaching will unfit the boy for tending a nail machine or a shoe-pegging machine. This might be well founded if such trades were to cling to the old minute subdivisions of labour, and the Old World notion that a workman must stick to one trade all his life. A celebrated builder of machine tools once said of one of his lathes: "It will take a man of science to run that lathe." The tendency of all tools is towards complexity, and mechanical trades continually demand more "all-round men," more workmen ready to change from tool to tool, and task to task. The American boy from the new schools will be a master at many trades; he has been taught to use his imagination, to observe, to use his senses, and his mind in a workmanlike manner.—
The Century.

COUNTY OF WELLINGTON PRO-
MOTION EXAMINATIONS.

Friday, March 14th, 1884

FIRST CLASS TO SECOND.

READING. TIME, ONE HOUR.

First Book, Part II., page 54:—"When by the sun . . . flew off with it." Value, 30 marks.

WRITING. TIME, ONE-QUARTER OF AN
HOUR.

Copy on slates in script (not printing), page 56:—"A little bird . . . she loved them well." Value, 20 marks.

DICTATION. TIME, THIRTY MINUTES.

Pupils will take separate seats with slates. To be conducted in writing.

1. So far flew the mother away from her brood.
2. I chased a little mouse under a chair.
3. It was a gray-bird's nest, and in it were three brown-and-white eggs.
4. They ate it with zest, for they were hungry.
5. The groom found him and took him home.
6. She whipped him, she slashed him.
7. They had to feed him on milk and the yolk of eggs.
8. A box of pork floated to the place where the men were.
9. To-day they set out for some sport with their kites.
10. Guard me safely through the night.
11. Here you see Florence at her tasks for next day's school.
12. All must hate a lying tongue.
13. He was at all times pleased to lend Curly his ball, or top, or kite.
14. Sixty minutes make an hour.
15. You may be sure Charlie's school-mates felt sorry.

The above is to be written neatly. Value, 50 marks, with 2 marks off for each error.

ARITHMETIC—TIME, TWO HOURS.

1. Write in words 678 1040, 03, 680 and 139.

2. Write in figures five hundred and six, one thousand and ninety, one hundred and seventy; and in Roman numerals 84 and 999.

3. Find value of $64934 + 3650 - 2067 + 532005 - 98789 + 48788$.

4. Tom has one hundred and eighty-six marbles, James has 78, John has 19, William has 37. How many has Tom more than the three other boys?

5. In a school of nine hundred and nine pupils, there are four hundred and sixty girls; how many more girls are there than boys?

6. George bought 28 marbles on Monday, 20 on Tuesday, 44 on Wednesday, but on Tuesday he lost 17 and on Wednesday 23; how many had he left?

7. Mary bought a slate for 10¢, a book for 25¢, a fan for 60¢, and a parasol for \$1 75; how much change should she receive out of a \$4 bill?

8. Find the difference between $786 \frac{1}{2}$ and $400 \frac{3}{4}$ and $9829 \frac{1}{2}$ and 17802 .

9. Three numbers added to their amount to 2000, the first is 387, the second 1107; find the third.

10. A stair has 18 steps in it. Now, if Willie goes up 13 steps, then down 6, then up 9, then down 5; how far is he from the top?

Value, 100 marks—10 each.

N. B.—The teacher will conduct this examination, and report the results to the Inspector at his first visit to the school.

READING.

Value, 50 marks for each class.

Promotion to Third Class.

Second Book, page 123:—"The lark and her young ones."

Ten or twelve lines of this lesson.

Promotion to Fourth Class.

Third Book, page 297:—"I know that entertainments . . . make our appearance together!"

Promotion to Fifth Class.

Fourth Book, page 137:—"The eagle is seen perched . . . his talons from beneath

NOTE:—This paper is not to be seen by candidates. Examiners are required to give careful attention to the marking of the reading. Consider expression, fluency, and correct punctuation. Examiners will fill in the reading marks in list of candidates.

WRITING.

Value, 40 marks. Writing will be judged from Dictation paper.

ENTRANCE TO THIRD CLASS.

SPELLING—TIME, THIRTY MINUTES.

To be read slowly and distinctly, and the greatest care taken that each pupil understands every word. Each sentence to be first read in full, the pupils simply paying attention, then again slowly, the pupils writing.

1. The tortoise said, "good-bye," and steadily persevered.
2. The violets courtesied in their curious way.
3. She spied her grandmamma's spectacles and snuff-box.
4. This huge giant, clothed in complete armor, repeated his challenge daily, defying the men of Israel.
5. The boys separated to go on their several errands.
6. It was proposed that they should go to a neighbouring carpenter's shop.
7. The saint that wears heaven's brightest crown.
8. The other boys confessed he had more courage than any of them.
9. The farmer loaded his pistol with lead.
10. They were rejoiced to find that their prayers to heaven for aid had been heard.
11. He thought he could spare the crocuses.
12. Searched, tyrant, prudent, surrounded, punishment, prowling, luscious, assistance, failure, wagoner, citizen, liberal.

Value, 100—4 marks to be deducted for each mistake. This paper is not to be seen by the candidates.

ARITHMETIC.

On paper—full work required.

1. Write in words 800074. Write in figures one million, six thousand and two. Write in Roman numerals nine hundred and ninety-nine.

2. Divide 708654321 by 6875.
3. Multiply 97008 by 00780, and take 7079034 from the product.

N. B.—No values for questions 1, 2 and 3 unless absolutely correct.

4. A farmer has 729 barrels of apples. After selling 589, losing 87 by decay, and giving away 38 barrels; how many has he left?
5. If I buy 40 sheep for \$300; for how much must I sell them to gain \$100?
6. How often can 197 be subtracted from one million?
7. Simplify $604 + 35 \times 7$ $140 \div 4 + 3075 - 76 \times 43 - 80$.
8. If a man's wages are \$16 a month and his expenses are \$8 per month; how much can he save in a year and a half?
9. When 19 is added to a certain number, 81 is contained in the sum 67 times; find the number.
10. Jack has five times as many marbles as Harry, and both together have 30; how many have each?
11. A man bought 920 head of cattle for \$21160, and sold them at a loss of \$3 each; find the amount he received for the cattle.
12. A farmer sells 36 hogs at \$2 each, 24 sheep at \$2½ each, 11 cows at \$17 each, and 8 horses at \$150 each. With the proceeds he buys land at \$4 an acre. How many acres did he buy?

Time, two hours, and ten questions to count a full paper.

GEOGRAPHY.

Answers to be written on paper.

1. Draw a map of the County of Wellington, showing its townships, county towns, towns, incorporated villages, railroads and chief rivers.
2. Bound the township of West Luther.
3. What line divides Nichol from Pilkington?
4. What is a cape? What is a desert? What is a sea? What is a volcano? What is an island.
5. Name the cardinal points of the compass.
6. Name twenty post-offices in the County of Wellington.
7. What county north of Wellington? What counties on the east of Wellington?
8. Name largest township in Wellington. Give the name of the smallest township in the county.
9. I went by rail from Arthur to Drayton; what lines of railway did I pass over?

Value, 72 marks—1, 15; 2, 6; 3, 2; 4, 10; 5, 2; 6, 15; 7, 6; 8, 6; 9, 10. Time, one hour and a half. See time table.

CONTEMPORARY LITERATURE.

EXAMINATION MANUALS, Nos I and II, Arithmetic, Algebra, by Wentworth & Hill. Boston: Ginn, Heath & Co.

THESE contain a series of examination papers in Arithmetic and Algebra, requiring about an hour to work, followed by a number of examination papers from Universities and Colleges in Canada, United States and Great Britain. These books will be found useful to teachers.

EASY LATIN AND GREEK GRAMMAR PAPERS, by H. R. Heatley, M.A., Assistant Master at Hilbiron School, Rugby. Rivingtons, London, 1884. [pp. 144.]

THIS is an exceedingly good collection of examples arranged in the form of short papers suitable both for use during Term time and at Examinations. Many of the questions, are new and striking and are well calculated to test the knowledge of even advanced pupils.

GRÆCULA: A FIRST BOOK OF GREEK TRANSLATION, by H. R. Heatley, M.A., [ut supra.] Rivingtons, London, 1883. [pp. 82.]

MR. HEATLEY is an experienced writer of books intended to facilitate an acquaintance with the ancient classics. His aim in the present book is to enable a boy to commence Greek translation as soon as he mastered the *Active* of λυω. The first lessons consist alternately of sentences and stories of as nearly as possible equal difficulty, written in illustration of some particular rule. The headings of the lessons are often very humorous and serve admirably to excite the curiosity of the student to become acquainted with the story.

THE GROWTH OF THE ENGLISH COLONIES, by Sidney Mary Sitwell. Rivingtons: London.

THIS little volume, of about one hundred pages, gives us an account of the establishment of English Colonies from Virginia in

1606 to the Fiji Islands in 1874. Notwithstanding some faults of style, it will be interesting to the general reader who wishes to get some idea of the growth of England's dependencies, and to the teacher who may need a succinct account of this portion of English history for use in the school-room. It bears, however, the mark of a book made to order. It is also somewhat untrustworthy in places. Here for instance is what it has to say of the Canadian Rebellion of 1837:—"On public questions the English inhabitants of Upper Canada were divided into political parties, so that the French in Lower Canada, all voting together held the balance of power. Besides this, their situation gave them control over exports and imports." The writer is evidently mixing up the events that led to Confederation with those that led to the Rebellion. It was the Home Government, not Lower Canada which, by the Constitutional Act had power to control the exports and imports. It will be news to most of our readers to be told, as is done on page 96, that Hong Kong at the mouth of the Canton river, is one of the Ladrone Islands, a group away to the east of the Philippine Islands.

THE PUPIL TEACHERS' ANNUAL for 1884, containing pupil teachers' examination papers for 1883, with answers to arithmetic, algebra and mensuration; worked-out deductions; specimens of essays and notes on lessons; model answers to arithmetic, algebra, mensuration, history, music, etc.; and notes to grammar. Together with copy of Schedule V. (Revised Code), etc., etc. London; Moffat & Paige. [pp. 174, price 2s.]

THE title of this publication sufficiently indicates its aim and scope. The work of the fourth year for pupil teachers in the English school, being in many respects similar to our intermediate and third class, it is not unlikely that our teachers could find in this book much that would be interesting and useful to them.

EDITORIAL NOTES.

OUR next number being one of the Mid-summer Double numbers will not be issued till about the 10th of June. In view of University and Departmental examinations it will contain some special and important papers.

THE United States Senate has earned the gratitude of mankind in passing the Blair Educational Bill appropriating \$75,000,000 to public education. The Educational Bill is the proper corollary to the Emancipation Act. The common school of America has nobly vindicated its claim to public affection and support.

WE hope the High School Masters will, in the exercise of their extended powers, select a good man to support their present worthy representative in the Senate of Toronto University. We shall not, where there are so many well qualified gentlemen to fill the position, undertake to say who or whence he should be. We would advise the electors to wait until the candidates are before them, and not in advance pledge themselves to support this man and oppose that man because some busybody wishes it so. Let the wisdom of extending the franchise be amply vindicated.

MR. RYE ON EARLY UNIVERSITY LIFE AT CAMBRIDGE.

BY the courtesy of the author we are enabled, in the present number of THE MONTHLY, to reproduce from a recent issue of *The Gentleman's Magazine*, a curious and interesting paper on College Life at Cambridge in the early part of the Seventeenth Century. The contribution is from the pen of Mr. Francis Rye, long known as a valued contributor to THE CANADIAN MONTHLY, and one of the most scholarly men and accomplished gentlemen it has been the good fortune of the present writer to meet. Mr. Rye, until a year or two ago, was a member of the firm of Messrs. McCarthy, Boyes &

Rye, Solicitors of Barrie, and in the interval has been sojourning in the south of England for the benefit of his health. Mr. Rye's tastes are more or less antiquarian (his brothers being well known in England as antiquarian writers and critics); but Mr. Rye's *bonhomie* and his geniality of disposition far remove him from the "Dry-as-dust" character of the writer on antiquarian subjects, and endear him to those who know him personally, or through the medium of his pen. He has a wide and intimate acquaintance with English literature, and, with his wife, who is also a graceful writer, is a loving student of art, a well-informed art critic, and an admirable essayist and reviewer.

The glimpse given by our author of Early College Life at Cambridge, will no doubt prove of interest, not only to those who have some acquaintance with English university life, but to those who are historically familiar with the social customs and household economies of England two hundred and fifty years ago. The perusal of the paper, to the present writer, has been a special delight, not only for its quaint picturings of thrifeful habits and modest economies in the life of an English undergraduate in the time of Charles I., but for the pleasant memory it brings us of the friend who penned it, whose scholarly tastes and habits of industry would, but for sickness and ill-health, bring him abundant success and well-earned fame. In reproducing his paper in THE MONTHLY, we may be permitted to hope, that at no distant day, returning health may bring its writer back to Canada, and, in the interest of Canadian letters, to such literary as well as professional work as he is eminently well fitted, with credit to himself, to perform.

G. M. A.

SCHOOL DISCIPLINE IN THE COURTS.

WE regret to notice that parental wrath against the administrators of corporal punishment upon grossly insubordinate children

in school has in several instances of late found vent in dragging the offending teachers before the courts, and consolation in inducing by lachrymose and sensational stories the magistrate to inflict a fine upon the constituted guardians of youthful morality, decency and order. We regret also to observe that the School Boards in nearly every instance have shown a disposition to support the infuriated taxpayer, and at his instance, in slavish fear of possibilities on next election day, to read the teacher an insolent lecture upon duty and moderation. The young ruffian in the meantime becomes a hero, and either returns to the same school to glory in his victory over the teacher or betakes himself to another where he is not long in making fresh trouble. And so the task of striving to maintain discipline with such an element in school, becomes a pitiful farce, for it is a rare thing to find Boards that will not weaken in the presence of the omnipotent ratepayer.

We are not advocates of corporal punishment as a remedy for all breaches of school discipline, nor are we apologists for the acts of indiscreet and passionate teachers. We are, however, fully satisfied that there is in all our schools a young "hoodlum" class ungoverned at home and encouraged by example, if not by precept, to revolt against all school discipline. Such an element should not be allowed to continue in the school room, and the teacher should feel it his duty, as did Cyrus, to punish most unsparingly those that deride his authority. But, unfortunately, before vicious pupils can be expelled from school the power of the Board has to be invoked, and, as we have hinted above, in the majority of cases the Board is unwilling to act promptly, or insists on a compromise to the ultimate injury of discipline. In such circumstances the teacher has no resource, in flagrant breaches of discipline, except moral suasion or corporal punishment. It is in vain, however, to appeal to a sense of honour and propriety when such a sense does not exist or is dormant—a state of things far more common than foolish parents and pragmatical Shallows imagine. There is no way of reaching so effectively such pupils as

a judicious use of corporal punishment, and to them corporal punishment is a real kindness. Let it be understood in every school that there must be prompt, unhesitating obedience, not only to the principal, but the assistant, or punishment will follow, and breaches of discipline will be less frequent. The mere knowledge that such a power as corporal punishment is in reserve is generally a deterrent, and the wise teacher will do well to keep it in reserve as much as possible. But when the necessity for it arises he should not shrink from vindicating his authority by an appeal to it. He must have order at all costs, and if the trustees will not support him in getting rid of the disturbing element, he must either resign his position or be prepared to administer such punishment as the "hoodlum" element can understand. He must, however, govern himself. Passion in punishment is a crime, and defeats one aim of punishment—reformation.

It is greatly to be regretted that the indignation of parents of vicious children cannot be prevented from exercising itself in dragging teachers before magistrates known to have pronounced objections to the exercise of corporal punishment in schools. In such circumstances the most conscientious teacher is sure to be made the victim of anger or prejudice. In cases of alleged cruelty or undue severity the Minister of Education should have the right to decide whether the parent or guardian should be allowed to bring the teacher into court.

THE NEW REGULATIONS RESPECTING CERTIFICATES.

THE regulations recently issued by the Education Department for Ontario, and of which we present a brief summary in our *Educational Intelligence*, are to be commended for the very positive and somewhat novel merit of being opportune and intelligible, and for the evidence their promulgation incidentally affords of the correctness of the position long since taken by THE MONTHLY, that of late years elementary education has been allowed to become altogether too theoretical and too ambitious, and that in the rush for the so-called higher subjects the plain, old-

fashioned but indispensable primaries of the school curriculum were in danger of being wholly neglected. Matters, indeed, have come to such a pass in very many localities that good reading and writing are lost arts, and euclid and algebra are better known than the spelling book, and the English dictionary. We have been sedulously taught to believe that the only educational salvation for the youth of the country consisted in deftness at manipulating algebraic signs and symbols, and the possession of the ability to reproduce on paper within an incredibly short time the results of months of cram. Notwithstanding the elaborate machinery of the Intermediate, and the huge and expensive system of Departmental examinations for Teachers' Certificates, it is an admitted fact that the classes of students coming up to the Normal Schools are not nearly so well fitted to begin the work of professional training as were the classes of ten years ago. There is, it is stated, a crudity, a want of symmetry and development about this element, that is the despair of the examiners.

The sober sense of the country has begun to see the evils that flow from a too ambitious programme, and the neglect of the essentials; and there are abundant signs that the warnings of THE MONTHLY, and the manifest distrust felt by not a few of our best teachers of the system of specialties and cram that has been rife for the past eight years are about to produce a revolution. The body educational has been badly dieted of late, and in consequence we have much intellectual leanness and dyspepsia. Not only is the egilding on the ginger lead found to be a sham but the gingerbread itself is now declared to be a most unwholesome regimen. Plainly the educational *chefs* must give the children more wholesome, more substantial and better cooked viands. And the doctors who look after the intellectual health will need to change the treatment. But if we do not mistake the signs of the times they are quite prepared to make the change. Empiricism is never inexorable to the paymaster. The Minister is to be congratulated upon his determination to restore reading and writing to their primitive

importance in the elementary schools. We trust the examinations in these subjects will be made searching.

The attempt to encourage the study of music and drawing, will, we hope, be successful. The chief desideratum however is a supply of competent teachers. Until the High and the Normals Schools can meet this requirement, the value of the regulation will, we fear, be insignificant. It would be well, if reading, writing, music and drawing are to receive more attention in the schools, that the work in other subjects should be made less exacting. It must be remembered that the teacher's time is very limited, and it is mere tyranny to require the tale of brick without straw.

The exaction of a fee from candidates for certificates will do much to prevent callow youth from wandering aimlessly into the profession, and will help to lessen the expense of education. We are not advised as to what the Department proposes to do with the fees. We trust the money will not go to swell the provincial surplus, but that it will be devoted to educational purposes. It would be a righteous as well as popular act to devote it to the augmentation of the Super-annuation Fund. We beg leave to warn the Minister that the County Councils are not in need of any further addition to their treasury.

That portion of the regulations dealing with permits will be specially acceptable to the profession, the inspectorate, and, we venture to say, to the public also. The granting of permits has of late years been a crying evil, and has produced much irritation in the profession. We fear there have been very grave abuses of authority in the matter of permits, and the Minister cannot be too highly commended for his determination to put an end to a system that has degraded the profession and opened the door to questionable practices. We hope the special instances in which permits ought to be granted will be found to be very few, and that the profession and the public will be fully apprised by the Department of all the circumstances which may be thought to justify it in departing from a wholesome and necessary regulation.

EDUCATIONAL AFFAIRS IN THE ONTARIO LEGISLATURE.

THE Session of the Ontario Parliament just closed has not, as may be gathered from our summary of proceedings in the House, been remarkable for any very noteworthy enactments respecting education. The Reader question provoked some acrimonious discussion and was made the occasion of a vote of want of confidence, but although there was a pretty general consensus of opinion that the licensing of two series of Readers was a grave blunder, the House refused to hold the Government blameworthy or to embarrass the action of the Minister of Education in dealing with this troublesome matter.

It was noticeable in the discussion upon the ratification of the basis for the establishment and continuance of Collegiate Institutes that leading members on both sides of the House viewed with alarm the adoption of any condition that would seem to imperil the existence of any Institute already established.

The granting to the High School Masters the right to elect an additional representative to the Senate of the University of Toronto, though a tardy concession, is nevertheless an admission upon the part of the country of the right and ability of the guides of secondary education to take a larger share in directing the affairs of the University, and indirectly in shaping the courses of secondary and primary education in the Province.

The assistant masters will be grateful for the extension of the franchise. We would regret to learn that the extension of the franchise could occasion any discord between principals and assistants. If the wire-pullers that intest our educational system will have the decency to keep out of the school-room, the constituency will run no risk of being inoculated with the virus of party.

Reviewing the work of the whole Session, we cannot but observe that educational affairs occupied merely a subordinate place, and that but very few of the representatives showed much practical acquaintance with the working of the school system.

UNAUTHORIZED TEXT BOOKS IN THE SCHOOLS.

THE Minister of Education was not a moment too early in drawing the attention of the school authorities to the regulation respecting text books and the penalties attached to a violation of the law respecting them. The Minister is fully aware that both the High and Public Schools are swarming with text books that have no place and should have no place upon the authorized list, but which have been forced into use by a pernicious system of examinations, and by the greed of interested persons to make money even by a direct violation of the spirit and the letter of the law.

We have had lately some glaring instances of official impropriety in the promotion of the sale of unauthorized and rubbishy books, which some teachers were weak enough covertly to introduce in the hope of pleasing some officials. We were glad to notice that in several instances boards of trustees acted promptly in the matter and refused to sanction such contravention of the law. It were well if all boards and school officials would deal fairly with parents in the matter of text-books, but as through ignorance, laxity, or even downright disregard of the law, fair-dealing cannot always be depended upon, the Minister has acted very wisely in directing attention once more to this important regulation. He should make an example of a few corporations and officials, and the evil would be ended.

PROFESSIONAL QUESTIONS.—1. What is the source of all bad conduct? 2. Why should talking in a loud tone be avoided before a class? 3. At about what temperature should the air of a school-room be held?

4. How much of a teacher's time should be devoted to government? 5. By what means would you seek to form studious habits among your students?

EDUCATIONAL INTELLIGENCE.

A TORONTO lady proposes to teach working girl: bookkeeping.

THE Rev E. J. Rexford of the Educational Department Quebec is the new editor of *The Educational Record*.

A KINDERGARTEN SCHOOL will be opened in the Normal School, after the mid-summer holidays.

Mr. FRANK WOOD, Head Master Bradford Model School, succeeds Mr. Goggin as Head Master of the Port Hope Public Schools, at a salary of \$900.

MR. CORNELIUS DONOVAN, M.A., Principal of Separate Schools of Hamilton, has been appointed an additional Inspector of the Separate Schools of Ontario.

WE regret to learn that Mr. J. A. Clarke, M.A., Head Master of Smith Falls High School, has been compelled through ill-health to tender his resignation.

THE Picton High School under the management of Mr. R. L. Dobson, formerly of Lindsay, has become so large that a fourth teacher has been engaged.

MR. AMBROSE DE GUERRE B. A. of Toronto University has been appointed to the position of fourth assistant in the Stratford High School.

MISS DICKSON, who has finished a course in medicine at the Kingston College, has offered her services to the Women's Foreign Missionary Society. She wishes to go to India.

THE Barrie *Advance* states that the certificates of twenty-eight persons concerned in the County of Simcoe Examination frauds have been cancelled. So far, so good. The case is still *sub judice*.

A DEPUTATION of ladies presented a petition to Hon. G. W. Ross on 17th ult. bearing over 4,000 signatures, in favour of the introduction of temperance text-books in the schools.

MR. T. G. CAMPBELL, B.A., Fellow of Toronto University, has been appointed Mathematical master, Whitby Collegiate Institute, at an initial salary of \$800, *vice* E. V. Carson, B.A., resigned.

THE next examination for the Gilchrist Scholarship, will be held at Toronto, on Monday, June 16th. After the present competition, the scholarship will be withdrawn from Canada, as the scheme has not proved satisfactory.

AT a meeting of the Athletic Association of the Kingston Collegiate Institute, the championship medal was presented to Mr. A. Gandier. It was also resolved to purchase gymnastic apparatus, and to apply to the Board for the purpose of having the gymnasium repaired.

A HUNDRED thousand dollars has been subscribed to McGill University, Montreal, as an endowment for the medical faculty, in memory of the late Dr. G. W. Campbell, a former professor therein. Half the whole amount was given by Hon. Donald A. Smith.

MR. JUSTUS WRIGHT, who has taught in the Waterloo street south School for the past eight years, has been appointed Headmaster Hamilton Road School, London. And at present, Miss Fleming, who taught in the same school for five years, is his assistant.

THE Dundas High School Board having been threatened by the Inspectors with the withholding of the Government grant to the school, in the event of their not providing better accommodation, have appointed a committee to consider whether in view of the cost of the school in proportion to the attendance it would pay them to continue to keep it in existence. Meantime the matter is being discussed in the local press.

THE Minister of Education, will we understand, attend several Spring Conventions, and take part in the proceedings. The following is his programme:—Waterloo Teachers' Association, Galt, Friday, 25th April, 1884. Convention of Inspectors, of Eastern Ontario, Brockville, Friday, 9th May. County of Victoria Teachers' Association, Lindsay, 16th May. East Kent Teachers' Association, 22nd May, 1884. North Wellington Teachers' Association, Fergus, Wednesday, 28th May. County of Lincoln Teachers' Association, St. Catharines, 30th May, 1884. County of Durham Teachers' Association, Port Hope, Friday, 13th June, 1884. North York Teachers' Association, Aurora, 19th June, 1884.

ON the occasion of the retirement of Mr. D. J. Goggin from the Principalship of the Public Schools of Port Hope, after eleven years' service, to assume the duties of Head Master of the Normal School Winnipeg, the pupils and other friends presented him with an address and a valuable tea service and urn, the latter the gift of the trustees. His worship Mayor Hugel occupied the chair, and speeches

were delivered by Mr. Furby, chairman of the School Board, Dr. Purslow, Principal of the High School, Dr. O'Meara and others, expressing regret at Mr. Goggin's departure from the town and grateful recognition of his work.

THE report of Principals Davies and MacCabe to the Minister of Education on their visit to American Schools has been published. Their tour was one of observation, and they merely report what they saw. They make the following remarks:—In attempting to estimate the success of these schools, and in comparing their work with ours, it must be remembered that their session extends over a period of two years. They profess as we do to take up their academic work from a teacher's standpoint—that is to present each subject as it is to be taught and in the way in which it ought to be taught. The object then is to have the students in learning any subject, learn also the best form in which it can be placed before the pupil. This work is most successfully carried out. As far as time permits, our Normal Schools do just as good work in this way. Making due allowance for our short time, we do as much as they. We are of opinion, however, that the best results in this way can be obtained only by making one session in the year in our Normal Schools, January to December, with July and August intermission; January to June inclusive, academic and professional combined; September to December, more strictly professional work.

AT the recent meeting of the Ottawa Teachers' Association the following resolutions were adopted:—Moved by Mr. R. J. Tanner, seconded by Mr. R. H. Cowley: That we, the members of the Ottawa Teachers' Association, avail ourselves of this our first opportunity as a body, of expressing our sincere regret for the loss sustained by the teaching profession in the early demise of our late esteemed member Mr. Samuel N. McCreedy, Assistant Master of the Provincial Model School, Ottawa, who, as a teacher, was pre-eminently successful, as a friend, warm-hearted and generous, and as a citizen respected by all, and that we hereby tender to his widow and family our earnest sympathy in their sad bereavement. Moved by Mr. John Munro, and seconded by Mr. John McMillan: That whereas this association has learned with profound regret of the death of the late James McNevin, Esq. Mathematical Master of the Ottawa Collegiate Institute, who was in entire sympathy with this association, and was ever ready to do his part in advancing the interests of Education, and who was a most successful and faithful teacher, an earnest worker, and a refined

Christian gentleman, Therefore be it resolved that this association extend its sympathy to Mrs McNevin and family and also to the parents of the deceased. Be it further resolved that a copy of this resolution be forwarded to Mrs McNevin and to Mr. McNevin, father of the deceased.

OTTAWA On the 25th ultimo, His Excellency the Governor-General and Lady Lansdowne paid a visit to the Collegiate Institute. They were received by Mr. F. Clewlow, chairman of the Board of Trustees; his worship the Mayor; Dr. Thorburn, late head master; Dr. Hammet Hill; Mr. J. MacMillan, B.A., Head Master; and Messrs. John Hay, James Cunningham, A. J. Christie and William Pennock. In the course of reply to an address His Excellency stated: "Your school system appears to me to have three strong points. It covers, with almost entire completeness, the whole of the ground which it is necessary to cover; it affords an education which, owing to the extremely reasonable terms upon which it is given, is accessible to all; and it has this great merit, that from the public schools at the bottom, to the universities at the top of the scale, the path which leads from primary to the highest liberal education is continuous and uninterrupted. In that succession your Collegiate Institutes occupy a most important position. They are the bridge by which the gap which divides the elementary schools from the colleges and universities is spanned, and in that respect they supply a want which I am sorry to say has been, up to the present, time but partially and ineffectually met in the Old Country. I am glad to observe with reference to this that your school course is a very varied one, and that a prominent place is given to literature and the study of the classics. Upon the study of the latter no doubt there has, in former days, been too great a disposition to rely exclusively, but I have always believed that a study of classical literature afforded a kind of mental training and culture which could scarcely be supplied from any other source."

JULY EXAMINATIONS, 1884.—The non-professional third and second class examinations will commence on Monday, the 7th July, at 9 a.m., and continue until the following Monday. The dates are so arranged that those who write for third may go on and write for second. It is not necessary to have a third before competing for a second, but a third-class certificate will not be granted on second-class papers. At the time of notifying the Inspector of intention to write for one of these examinations, every candidate must state the options that he purposes

taking, and enclose a fee of \$1. No candidate's name will be entered at the Department whose fee has not been remitted. A candidate who purposes writing on both the second and third, or on the intermediate, third and second, will have to pay a double fee, \$2. The fees are applied to the expense of the examination. By the regulations of 1884, the stigma is removed that a teacher may receive a certificate without examination in reading and writing. These two subjects are on the curricula for intermediate, third and second class examinations for July, 1884. Another important amendment affects the removal or extension of third-class certificates. Holders of such certificates who desire a renewal are required to present themselves at the non-professional third class examination in July. The Minister of Education will grant no extension except to meet some unexpected emergency, and then only until the next ensuing examination.

EDUCATIONAL AFFAIRS IN THE LEGISLATURE OF ONTARIO.

(Continued from March Number.)

March 12.

COLLEGIATE INSTITUTES.

Hon. G. W. Ross moved that the order-in-Council passed March 1st authorizing the adoption of the following new regulations respecting Collegiate Institutes be ratified:—

I. The following conditions are required from each Collegiate Institute now existing for its continuance, and for the establishment and continuance of any new Collegiate Institute, namely:—

(1) Suitable school buildings, outbuildings, grounds, and appliances for physical training.

(2) Library containing standing books of reference bearing on the subjects of the programme.

(3) Laboratory, with all necessary chemicals and apparatus for teaching the subject of elementary science.

(4) Four masters at least, each of whom shall be specially qualified to give instruction in one of the following departments:—Classics, mathematics, natural science, and modern languages, including English; the teaching staff of the institute being such as to provide the means of thorough instruction in all the departments mentioned.

(5) The excellence of the school, as required by the foregoing, must always be maintained to justify the special grant in each year.

II. No new Collegiate Institute shall be established unless all of the above conditions

are complied with; and unless the yearly salaries of the four specially qualified masters required by condition (4) amount in the aggregate to the sum of \$4,500 at least.

III. In case it shall appear, after due enquiry, that any Collegiate Institute has made default in the performance, observance or fulfilment of any of the conditions, or in maintaining the proper standard of efficiency, the Lieutenant-Governor-in-Council may withdraw its status and rights as a Collegiate Institute.

IV. The foregoing are intended to apply to each Collegiate Institute now existing or that may hereafter be established.

After discussion the motion was allowed to stand (see March 15th).

March 14.

HIGH AND MODEL SCHOOLS.

Mr. French moved that it was desirable that the attention of the Government be drawn to the discriminating legislation passed by this House against High and Model Schools in municipalities separated from counties for municipal purposes, and that it was unjust where such schools are made free to the public generally that they should not be assisted by the County Councils.

After discussion the motion was withdrawn.

SUPERANNUATED TEACHERS.

Mr. Bishop moved for a return showing the names of teachers on the superannuation list, the date of their superannuation, the amount received by each, their place of abode at the time of superannuation, and by whom their superannuation was recommended.

Mr. Meredith asked if the Government interpreted the provisions of the statute to mean that a teacher incapacitated for teaching but not for other work should have a claim on the fund.

Mr. Ross (Middlesex) said he would look into the matter.

HIGH SCHOOL TEACHERS.

Mr. Harcourt enquired whether it was intended, and if so, when, to make provision for a suitable theoretical and practical course of professional training for all High School teachers as recommended by the teachers themselves at their last annual meeting.

Mr. Ross (Middlesex) said it was intended to make such provision, but it could not be done this year. He hoped to carry out the intention in 1885.

UNIVERSITY OF TORONTO.

Mr. Ross introduced a bill to amend the Act respecting the University of Toronto. He explained it proposed to give increased

representation in the Senate by allowing the High School masters to elect one additional representative, thus giving them two instead of one. It also proposed to give more power to the Convocation of the University, as requested by that body; also to enlarge the constituency electing representatives of head masters of the High Schools. As the law at present stood, only the head masters had a right to elect representatives. He proposed to extend the privilege to every High School teacher.

March 15

COLLEGIATE INSTITUTES.

Mr. Ross (Middlesex) moved the ratification of the order-in-Council relating to Collegiate Institutes. He said that he had amended the order-in-Council in one or two particulars. He had made a few verbal alterations, and had withdrawn the clause requiring \$4,500 as the minimum of aggregate salaries to be paid in the institutes. (Hear hear). He did not, however, wish to be misunderstood as receding from the position he had taken. They were now in a transition state, and perhaps it would be well to postpone action until another year. The regulation would apply on and after January 1st 1885.

The motion was carried.

March 17.

TORONTO UNIVERSITY.

Mr. Gibson (Hamilton) moved for a return of copies of all communications between the Senate of the University of Toronto and the Government, on the subject of further State aid to the university.

Hon. Mr. Morris suggested that the words "or the authorities of any other university, or any other person," be added to the motion but on explanation by the Minister of Education that there was no other communication upon the subject, except that of the Senate, Mr. Morris withdrew his suggestion.

March 18.

SUPPLY.

The House went into Committee of Supply and passed the following items:—Public and Separate Schools, \$240,000; schools in new and poor townships, \$20,000; inspectors of Public and Separate Schools, \$37,427; High Schools and Collegiate Institutes, \$84,500.

Mr. Meredith said he thought that the order-in-Council making the distribution of the grant to High Schools should be brought down to the House for ratification.

Mr. Ross (Middlesex) said that would be an innovation. Of course if the Legislature declared that these orders must be submitted the change would be made.

The following items passed:—Inspection

of High Schools and Normal Schools, \$5,600; training of Public School teachers, \$64,673; departmental examinations, \$8,148; Normal and Model Schools, Toronto, \$21,601; Normal School, Ottawa, \$19,011; Educational Depository, &c., \$7,531; School of Practical Science, \$5,375; miscellaneous, \$2,549; superannuated Public and High School teachers, \$52,000

March 20.

PUBLIC AND SEPARATE SCHOOLS.

Mr. Ross (Middlesex) moved the second reading of the bill to amend the Act respecting Public, Separate, and High Schools.

He explained that the bill provided that non-residents may require school tax to be appropriated to a Separate School, and that Separate School Boards might enter into an agreement with the municipalities, by which the Separate School Board should receive an immediate sum in lieu of the Separate School rate.

The bill was read a second time.

It was subsequently read a third time and passed.

March 20.

THE PROVINCIAL UNIVERSITY.

Mr. Ross (Middlesex) moved the second reading of the bill to amend the Act respecting Toronto University. He said he had already explained the leading features of the measure when introducing it, and he intended in committee to move a sub-section, giving the University authorities the power to confer the honorary degree of LL.D.

Mr. Meredith said he hoped that the Minister would also make provision whereby the public school teachers of the province could be represented in the Senate.

Mr. Ross said he had not considered that question, and would not promise to take any action on it.

The bill was read a second time, and was subsequently passed with a clause inserted providing for the conferring of the degree of LL.D. *honoris causa*.

March, 21.

ORDERS-IN-COUNCIL

Mr. Meredith moved—That in the opinion of this House all orders-in-Council determining or altering the basis for the distribution of the Legislative grant in aid of Collegiate Institutes and High Schools ought, before becoming operative, to be submitted to and ratified by the vote of this House. The House, he thought, had not that efficient control over the disbursements which it ought to have.

Mr. Ross (Middlesex) asked the hon. gentleman to let the motion stand. Perhaps the present basis was not the best which

could be devised, but he wished to consider it.

The motion was allowed to stand.

March, 21.

SCHOOL LAW.

Mr. McCraney moved the second reading of his bill to amend the Act respecting the Public, Separate, and High Schools. He explained that the principal provisions provided for the holding of the elections in villages, towns, and cities, but not in townships. It also provided that the qualifications of members should be the same as for municipal councillors, and that councillors should not be eligible for seats on the boards.

Mr. Wood objected to the holding of the elections at the same time as that of municipal elections, because politics were introduced into the latter elections.

Mr. Ross (Middlesex) asked the hon. gentleman to withdraw the bill after having expressed his opinions. The matter would receive the attention of the Government.

The bill was withdrawn.

March 24.

ORDERS-IN-COUNCIL.

Mr. Meredith moved—"That in the opin-

ion of this House all orders-in-Council determining or granting the basis for the distribution of Legislative grant in aid of Collegiate Institutes and High Schools ought, before becoming operative, to be submitted to and ratified by the vote of this House."

The Minister of Education moved in amendment: That all after the word "that" in the motion be struck out and the following substituted—"The basis on which the legislative grant is distributed to High Schools and Collegiate Schools is tentative, and subject to such modifications from time to time as experience may justify, and the interests of higher education require, and that until fuller information is obtained regarding the operation and effect of the present scheme, it is not expedient to restrain the liberty which the Education Department has always exercised in dealing with the matter."

The amendment was carried on division.

INDUSTRIAL SCHOOLS.

The bill to amend and consolidate the Acts respecting Industrial Schools was read a third time and passed.

EDITOR'S TABLE.

WE would be glad to receive from the Secretaries of the Conventions their programmes, and also an account of the proceedings.

The Little Christian (25 cents a year, Scriptural Tract Repository, Boston), now in its 14th vol. is an excellent paper for small children. Its aim is high.

THOSE in quest of a good English Dictionary should not fail to see the new Webster. All that we have said in review of this monumental work in 1881 and 1882, we may repeat with renewed emphasis in 1884.

LATINE for March, has an admirable list of books for collateral reading or reference for a Latin collegiate course. It has another instalment of "Aliquot ex Lælio Ciceronis Idiomatica."

WE have received from the Minister of Education for Ontario, a copy of the catalogue of the Museum of the Education Department, Ontario, compiled by the Superintendent Dr. S. P. May.

THE new book firm, Messrs. Williamson & Co., have removed from King St. East to 5 King St. West. They have lately issued a clearance list of educational works at remarkably low prices.

MESSRS. COPP CLARK & Co., have laid on our table the second edition of Mr. Strang's "Exercises in False Syntax," and the third

edition of Mr. Knight's "Chemistry for High Schools." The rapid sale of these books so creditable to Canadian scholarship, has amply justified the warm praise THE MONTHLY felt justified in bestowing upon them on their first appearance.

THAT lively educational satire, "The Adventures of No. 7," which we noticed some time ago, is attracting, as we ventured to predict, much attention from the teaching profession and the general public interested in education. It is no fatuous Quixote on a sorry jade that pricks across the plain this time.

IT is worth notice that three of the great English novelists are simultaneously contributing to the Harper periodicals: Charles Reade, with "A Perilous Secret," to the *Basar*; Wilkie Collins, with "I Say No," to the *Week*; and William Black, with "Judith Shakespeare," to the *Magazine*.

JUST as we go to press, we receive from the Canada Publishing Company, Toronto, a copy of their First Reader, Normal Music Course, prepared by those well-known experts, Messrs H. E. Holt musical director of the Boston Public Schools Jno. W. Tufts musical composer, and S. H. Preston, Toronto Normal School. The book is now in use in the Provincial Normal and Model Schools. We shall notice it fully next month.

FASCICULUS No. I, Vol. II, March 1884, of the proceedings of the Canadian Institute, Toronto, contains the inaugural address of Principal Buchan on Complexion, Climate and Race; a paper by Mr. J. M. Clark, on Therapeutics; Canadian Cattle Trade and Abattoirs, by Mr. Alan Macdougall; paper on Hypnotism and its Phenomena, by Dr. Bryce with summaries of other papers read at meetings of the Institute. The work of editing the proceedings has evidently been done with much good taste and judgment.

"*Our Little Ones and The Nursery*," (Monthly,) from the Russell Pub. Co., Boston, Mass., is now in the fourth Vol. We have seen nothing better for the wee ones. The print is perfect; the stories are short, bright, and without slang. The poetry is something better than mere rhyme, lively and sweet; and the twenty-six illustrations within the twenty-four pages are very attractive. A friend's nursery is unanimous that it is "just lovely." \$1.50 per year.

The Elzevir Library (Jno. B. Alden, New York, \$5.00 a year) contains a unique cyclopaedia of the world's choicest literature from No. 1. Irving's Rip Van Winkle, 2 cents to number 124 Baring Gould's Legend of the Wandering Jew, 2 cents. There is nothing like it in all the world. The teacher or pupil that cannot in these days get something good to read must be remote from a post-office.

THE letter of Dr. Wilson, President of University College, Toronto, to the Hon. G. W. Ross, Minister of Education for Ontario, on Co-education, has been published in pamphlet form. It is a very able paper and presents the arguments against the scheme in a most telling and dignified manner. It is a noticeable fact that all the religious newspapers of the Province have pronounced against Co-education.

THE April *Atlantic* (Houghton, Mifflin & Co., Boston,) in addition to the excellent stories "In War Time," and "A Roman Singer," contains a very readable and discriminating article on Henry Irving. "The Sources of Early Israelitish History" we commend as an example of what is known as the higher criticism of the Bible. There are contributions from Richard Grant White and Oliver Wendell Holmes, which alone would attract attention to the magazine. "The Way to Arcady" is also a very pretty poem.

THE April *Century* (The *Century* Company, Boston,) has five profusely illustrated articles, and a biographical paper with two portraits. The frontispiece is a portrait of the late Sidney Lanier at the age of fifteen. "Notes on the Exile of Dante," and John Burroughs' replies to Matthew Arnold's recent lecture on Emerson are of special interest to all students of literature. "How Wilkes

Booth crossed the Potomac" fills an historic gap, and adds fresh interest to a tragic tale of history.

St. Nicholas (The *Century* Co.) continues to be the most popular magazine for the young folk. The April number has something to suit the taste of every healthy-minded girl or boy. The most interesting portion is the report of the art contest, in which over nine hundred drawings were entered by young draughtsmen and women. We wish all our teachers could see the *facsimiles* of the successful illustrations. The publishers of *St. Nicholas* are doing much to stimulate the young to take an interest in art and science.

WE have received from Mr. Commissioner Eaton of the Bureau of Education, Washington, the following circulars of information:—Rec'n School Law Decisions, compiled by Lyndon A. Smith, A.B., LL.D.; The Bufalini Prize (a prize of 5,000 francs offered by the celebrated scientist Marinzo Bufalini, to the person presenting the best essay on the subject of the experimental method in science); Meeting of the International Prison Congress at Rome, Oct., 1884; Report of the Director of the American School of Classical Studies at Athens, 1882-83; Education in Italy and Greece.

Harpers Monthly Magazine for April opens with a very beautiful reproduction of part of Murillo's "Immaculate Conception." The engraver is Mr. W. B. Closson whose work affords an excellent example of the amazing progress that has recently been made in the art of engraving on wood. This engraving is, we understand, the first of a series made from the original by Messrs. Harper's representative which will appear in their magazine. The initial paper is "A Lover's Pilgrimage," by Mr. E. D. R. Bianciardi and is most profusely illustrated. A paper entitled "From the Fraser to the Columbia" is especially interesting to Canadians; the exquisite drawings which illustrate it add interest to the article. Of the two serials "Judith Shakespeare," and "Nature's Serial Story," the latter appears to make far the most satisfactory progress and is written in the author's usual fascinating style. The effort to harmonize Science, Natural History, and love-making in "Nature's Serial Story" is rather a failure even in Mr. E. P. Roe's hands. The poetry of this issue is graceful, and along with the short stories lend greater charm to the number.

1. Matters connected with the literary management of THE MONTHLY should be addressed to The Editor, P. O. Box 2675. Subscriptions and communications of a business nature should go to The Treasurer, Mr. Samuel McAllister, 59 Maitland Street, Toronto.

7. Circulars respecting THE MONTHLY may be had on application to the Publishers.