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THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL CHRONICLE.

JANUARY, 1879.

UNIVERSITY CONSOLIDATION.

BY ALPHA.

THE subject of University Consolidation has received considerable attention during the past year, both in Europe and America. The consideration of the question has been revived and brought prominently before the public of this Province by a paper read at the convention of the Education Society of Eastern Ontario, held at Kingston last July, by Mr. D.C. McHenry, M.A., Principal of the Cobourg Collegiate Institute. The topic was discussed, also, in the High School Section of the Ontario Teachers' Convention, last August. Resolutions were passed expressing the conviction that some suitable form of Consolidation is highly desirable. Steps were taken, moreover, to bring the subject more directly before the authorities of the several universities, with a view to the securing of the necessary legitimate action.

At present we give an outline of Mr. McHenry's paper, reserving for a subsequent number the consideration

of some of the more important features of the question.

The speaker in his introductory remarks referred to the difficulties surrounding this many-sided subject, and thought present discussion would be fruitless were it not highly probable that the question will soon again claim general attention; in which case the benefits of an interchange of opinion may be apparent.

The school system of Ontario is the pride of every Canadian patriot and the admiration of other lands; a University System, however fondly anticipated and long contended for in the past—is yet a dream of the future. In the chain of what ought to be our national system of education, there is a serious rupture at the point where we leave our Secondary Schools for the University. Up to this point all is consecutive and harmonious, but here the road diverges into many paths; uniform and systematic progress gives place to promiscuous

advancement, producing results as diverse as the curricula of the several institutions concerned.

The advocates of consolidation claim that, by a suitable scheme of confederation, our university system would be completed; all degrees granted would indicate equal rank of scholarship, and possess an appreciable value; government aid would be equitably distributed; unpleasant and unprofitable rivalries would give place to healthy emulation, sectarian bitterness to cordial co-operation for a common cause. He believed such a scheme both attainable and practicable, notwithstanding some expressions of doubt and indifference on the part of representative men, friends of Toronto University and of the outlying institutions. These indicate discouragement rather than actual hostility; or, perhaps they are no more than a kind of harmless coquetry on the one side and shy distrust on the other—the one party being really anxious to secure affiliated adherents, and the other waiting only for acceptable terms. If such hopeful views are reasonable, we cannot be charged with dealing in exploded theories, but should be credited with aiding in bringing into quiet waters and safe anchorage this vexed question, which, like a storm driven vessel, has been so many years floating on a sea of troubles.

I. What is the real design of a university, and what are its distinctive functions, in a comprehensive or national system of education?

(1.) The term may suggest that it is a school of universal learning including every department of literature, science, and art; providing for every legitimate profession; supplementing all other institutions in the land, and embracing the utmost limits of human knowledge. (2.) It may refer to the extended area of its influence. Reference was made to

the old European seats of learning, which attracted thousands of students. (3.) It may also suggest the idea of catholicity as a prominent feature of its character and operations—equal freedom and privileges being guaranteed to all duly-qualified applicants for admission. These general characteristics are certainly found in every flourishing university,—a liberal course, a general attendance, and a catholicity of tone pervading all its teachings.

The necessity for these organs of universal learning is never questioned in any civilized and progressive community. It is in harmony with the teachings of sound political economy that the state provide for all its people facilities for securing such an education as will fit them for their several duties as citizens. And, as a necessary result of the subdivision of labour, since there are more limited rounds of duty devolving upon certain classes—the learned professions—it follows that, until their services are dispensed with, ample provision should be made for specially qualifying them for their duties. This principle is recognized in every civilized country, and as nations progress in all that constitutes national greatness, the more extensive and complete is the provision made for establishing and maintaining the universities. How can this knowledge, so amply provided, be rendered accessible? Shall our university merely prescribe a course of study, the colleges to do all the teaching? Does the founding of a national university presuppose and assume affiliated colleges, or is it a function of the former to teach as well as to examine and confer degrees? While we select from European systems what we can profitably appropriate, we should reject all that will not assimilate with our national peculiarities. The systems of England,

France and Germany were examined in detail, the relation of their secondary schools to the university clearly traced, and the distinctive work of the latter compared with that in our universities. It was concluded that if we are to be guided by any such comparisons, the question as to whether our Provincial University should be a teaching body may best be settled by our first deciding whether we are prepared to adopt and maintain the advanced course of instruction of the German university where the teaching is taken up from the point when the student leaves the "gymnasium" and continued until he reaches the "Doctor's Degree"—corresponding to our *post-graduate course*. Until we can aspire to this position, a Provincial University can find no pretext for teaching, while at the head of a system of teaching colleges.

II. *Is such a Provincial system desirable in Ontario?*—Its superiority to our present "system" must first be shown—and in agreeing to a scheme, we must start from some common basis on which all can agree; the problem will never be solved by any exclusive method. Nothing but a want of liberality and breadth of view has hitherto obstructed the progress of this movement. All our leading legislators and educationists have felt the desirability of having one National University to which all the outlying colleges shall be affiliated. But the consummation of this design has been frustrated by side-issues raised in the discussion of details. Every sincere friend of superior education would favor that system which is best calculated to promote sound learning; one in every department characterized by thoroughness and adaptability to our requirements as a people; that system which provides a suitable education for every class; one that is equally acceptable

to all classes; and one that is above the reach of sectarian cavil and political intrigue.

The desirability of inaugurating a new system will be seen by considering some of the most prominent defects in the present arrangements.

(1.) The unnatural chasm between the so-called Provincial University and the rest of the system. No one will dispute the existence of this irregularity, nor attempt to justify the anomaly.

The secret of success in the primary and secondary grades of our school system is the prevailing unity and harmony of their operations. An unfortunate severance here occurs in the chain of our educational agencies. The "missing link" must be restored, and a consistent system secured, extending from the primary grade of the public school to the limits of a national university.

(2.) The natural result—the impossibility of securing a union of effort among university men, or a healthy emulation among the colleges. The system, (or the want of system), on the other hand, favors non-intercourse, creates exclusiveness, intensifies sectarianism, and gives rise to a kind of rivalry that has for its object, not the elevation of the standard of university education, but rather, in consequence of an impoverished and isolated "independence," the employment of questionable expedients to secure the greatest possible number of students.

(3.) An undue multiplication of degree-granting colleges. This results in diffusiveness of the curriculum, in superficial teaching, in degrading the standard, and lessening the value of college degrees. If these disastrous results do not appear in our colleges, their integrity has been maintained in spite of tendencies which almost inevitably lead to such degeneracy. A corresponding system among Ameri-

can universities has unquestionably proved unsatisfactory, so far as thorough and accurate scholarship is concerned. Within the last century no fewer than *five hundred and thirty-six* degree-conferring "colleges" have been established in the United States. Their most prominent educationists admit and deplore the results, and are moving in the matter of securing a national system.

In our Province we have seven such institutions—all but one "denominational." The last charter granted by our legislature was given, it is generally admitted, *as a matter of course*. Consequently, the easiest way to determine the probable increase of colleges in Ontario, is simply to ascertain *how many denominations are yet unrepresented by a university*. The position recently taken by our legislature is *dreadfully impartial*. It is to be hoped that it will be as willing to provide the necessary safeguards, and "make assurance doubly sure" by precautionary measures anticipating and favouring Consolidation. The wholesome restrictions of the latter would naturally check the undue multiplication of new colleges.

(4.) The uncertain value thus given to degrees may seriously interfere with general uniformity and efficiency in our High Schools and Collegiate Institutes. The Head Masters of these institutions are all equal in the eye of the law, whether young graduates of eighteen, or mature experienced graduates of thirty. The evil feared is somewhat checked by the regulation which requires a candidate for head-mastership to produce not only a degree in Arts from some British university, but also a certificate issued by the Minister of Education, showing that he has had experience in teaching; and, secondly, by the discriminating power of trustees. Nevertheless, both these safeguards may be neglected, and work made for future repen-

tance. Some safer guarantee is required, and this is best obtained by giving to University degrees in Ontario, not only a legal, but also a fixed minimum value. Our High Schools and Collegiate Institutes form an integral part of the system. As feeders of the Universities, they may be expected to give freely if in turn they receive freely. This interdependence is sometimes lost sight of by those who can be satisfied with anything less than the highest possible efficiency in our High Schools. The latter replenish the Freshman classes of the college; these soon become Seniors and return, many of them, to the High School to produce more Freshmen. The spring cannot rise above the fountain.

(5.) Under the present system the same individuals may be both professors, and examiners of their own students. They are thus exposed to censure and the suspicion of favouritism. A plan by which *numbers* not *names* should be adopted, and, at least, *associate* examiners appointed. "Why should college professors," it is sometimes asked, "unassociated with others, examine their own students, while High School Masters are prohibited even from being present during the Intermediate Examination?"

(6.) The magnificent endowment set apart by Government for the promotion of higher education is now given exclusively to one institution that is doing less than one-half the *bona-fide* university work of the country. One of two things is true: Either the colleges, other than University College, are *not* doing work recognizable as true university work, or there is an unjust appropriation of a generous and well-intended endowment. If the latter is true, the evil will soon correct itself. If, on the contrary, the colleges are not doing the work to be rewarded, the Government should be consistent, cancel their charters, and turn them into Collegi-

ate Institutes, when they would be justly dealt with under a system of "payment by results." The present exclusive scholarship system was justly condemned, and the manner in which consolidation would break up the monopoly was clearly shown.

(7.) The prevailing difficulties in connection with the *denominational* phase of the question. In a good scheme of consolidation these discordant elements would be harmonized; zeal for a particular sect will not be allowed to retard the progress of higher education; and the effete agitations of section and party will give place to calm and candid counsel.

III. *Scheme of Consolidation.*—Four general plans have been proposed for the solution of this problem: the first, "*affiliation*;" the second he termed "*absorption*;" the third, "*annihilation*;" and the fourth, "*consolidation*."

These Mr. McHenry illustrated as follows:—The *first*, to borrow a term from insurance, is a relation with limited and specified profits; the *second*, the surrender of all honors and profits for the benefit of the company; the *third*, a surrender of policy and profits, followed by death from starvation; and the *fourth*, a full participation in the profits, and a seat at the Board of Directors.

(1.) "Affiliation," as practically understood in Ontario, is regarded as a legal possibility rather than esteemed as a privilege. No sufficient tangible encouragement is offered the colleges. Affiliation, as contemplated by the Act of 1853, implied, at first, the distribution of \$35,000, afterwards of \$20,000 annually, to the outlying colleges. When the "surplus" failed, this latter sum was voted by the legislature for twelve years, when it was cut off at a stroke—a stroke, moreover, which seems to have cut the University adrift from the Colleges—

leaving her, however, in peaceful possession of the entire endowment.

(2.) "Absorption" is the unconditional surrender of degree-conferring powers, and the sending of students to Toronto for all degrees, except those in Divinity. This he regarded as an unwise and unnecessary centralization,—a dangerous monopoly.

(3.) "Annihilation," legislative interference in cancelling the charters of all denominational colleges, leaving the one at Toronto to do duty for the Province. The first is the least objectional; but all are unsuitable in a national university system.

(4.) "Consolidation."—By this term is understood "the opposite of the present system in many of its important features—an aggregation of its *dissecta membra*; a concentration of diffused and wasted energy; a blending of interests and feelings, instead of factions, opposition and petty rivalries. At present, the elements of our university system are floating about, as it were, in solution—incoherent, amorphous particles—with neither affiliation nor affinity. What is needed is the introduction of some power to collect these elements into a symmetrical solid, one grand compound crystal, if you please—isomorphous, beautiful, perfect. Do you fear that this crystal, while symmetrical as a newly formed snow-flake, may, of necessity, be as cold and lifeless as the icy mass with which it mingles? Do you regard an ice-bound, petrified, or cast-iron university system, the necessary result of consolidation? We are told that, accompanying the formation of certain crystals, *light* is produced. Perhaps, if we make one honest effort to emerge from our present isolation and darkness, light will be given at the moment when most needed; perhaps the removal of prejudice may be succeeded by the dawn of a brighter day—a light so bright

that it shall infuse intellectual life and added vigor into our new creation."

We condense the scheme proposed, giving merely the outline, which was fully elaborated.

(a.) The legislature should be induced to adopt such a scheme as shall utilize the outlying colleges. They can not be ignored; they are increasing in number, resources, efficiency, and usefulness. No single university can do work for the country. The evils of such centralization would be obviated by consolidation, and the benefits of a system of centres enjoyed. The question of expense, a prevailing prejudice against city-life for the young, and a justifiable preference on the part of many parents for colleges where religious restraints and oversight are guaranteed, enter largely into popular opinion on the subject. Our legislators should accept the situation as actual and inevitable, and proceed to determine how these educational agencies can be turned to the best account.

(b.) *How can they be utilized?* Not to advantage in their present capacity. A partial reconstruction of Toronto University should first be effected. It should be an administrative, not a teaching body, its Senate representative in character, the government and each degree granting college being duly represented. The general functions should include the arrangement of the curriculum for the colleges, the conducting of final examinations for degrees, the conferring of degrees and honours, and such duties as pertain to inspection, etc. The other Universities to hold in abeyance their degree granting power; the government, through an approved commission, to determine what equivalent should be given for the surrender of these important functions. All teaching to be done, for the present, at least, in University College and the other colleges holding university pow-

ers. The quality and amount of work done to be determined, primarily, by the final examination for degrees, and also by a certain amount of supervision of inspection. The amount of annual support to be received by any college to be in proportion to the number and rank of its graduates. The ordinary promotion of students from one year to another, in the course, to be left entirely with the colleges—the final test being sufficient. These final examinations to be conducted at the several institutions concerned, the presiding examiner being a member of the senate. The papers to be prepared under the direction of this central body, and the answers sent to them for examination. Then degrees, issued under authority of the senate, should be formally conferred by the Presidents of the several colleges, accompanied, if desirable, by some distinguished member of the senate.

Advantages of the system—(1) It would completely harmonize the educational system, from the lowest grade of the Public School to the University, (2) it would give a provincial character to all degrees and honours; (3) it would ensure a high standard of general and university education, without necessarily involving absolute uniformity in teaching; (4) it would afford the best means of testing the work done, and of stimulating our colleges in healthy competition; (5) it would secure the due recognition of specific service in the cause of education, and an equitable distribution of state support; (6) it would give increased facilities for the general diffusion of sound learning; (7) the plan proposed would secure these desirable results without in any way interfering with the distinctive theological work of any college.

IV. *Steps to be taken to promote a scheme of Consolidation*—Since To-

ronto University does not move in the matter, and the other institutions hesitate to take the initiative, though all admit the desirability and importance of some such step—let a joint committee be appointed, made up of representatives from the various Universities. This committee to mature a scheme to be submitted to the Legislature. It will then only remain for the government of the day to take up the question where it was left,

when, in 1869, the following resolution, moved by Mr. Blake, was passed almost unanimously: This House is prepared to give its best consideration to any scheme which may be laid before it for the improvement of superior education, and for the establishment and maintenance, through the Provincial University, of a uniform and elevated standard of education.

THE EFFECT OF EXAMINATIONS ON SCHOOL CULTURE.

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NO one conversant with Canadian Educational Institutions and their system of instruction can, we think, read the observations of Dr. Wiese in his "German Letters on English Education," especially the letter on "Examinations in Universities and Schools," without feeling that many of his strictures on the system of examinations as pursued there, apply in equal, if not greater measure, to the system pursued here.

The writer, whose letters, by the way, bear evidence on every page, that he knows thoroughly what he is writing about, points out how, that for want of an administrative head with ability to devise, and with sufficient authority to enforce, a uniform and systematic plan of action in the working of the middle-class and great public schools of England, confusion of purpose, dissipation of teaching force, aimlessness of effort, and consequent inadequacy of result characterized the working of these schools till within a few years. That

then, because the local examinations conducted by the Universities of Oxford and Cambridge, the examinations conducted by the Society of Arts and by the College of Preceptors, since they supplied Masters with something definite to aim at in the preparation of their pupils, offered in some measure an escape from the previous chaotic state of things, a mania for examinations seized upon the teachers and people of England generally.

The writer referred to regards this mania as a reaction from the former confusion, but on that account none the less a mania. "From time to time," he says, "something like an alarm-bell sounds throughout the country, 'Come and be examined!' and they come, boys and girls, young and old, having crammed into themselves as much knowledge as they could." He quotes, also, the words of a young Hindoo, for some time his travelling companion, and who had been educated in the English

schools in Calcutta. This eastern student greatly disapproved of the system, and said, "In their schools pupils were only urged on by their English teachers to get ready for examinations; and that therefore they were obliged to stuff their memory with a mass of unconnected facts which were only half understood—a process in which it was impossible to cultivate independent thought."

Is not this picture too closely descriptive of the system which obtains in Canada, or rather in Ontario? It would appear that for the last five or six years the examination mania has taken tight hold of us. We, too, have come to attribute great virtue to examinations. That public school is spoken of as well conducted, and is held up as a model, if "wee things" in the first class are not promoted to the second, until they can pass an examination in subjects of class one. Class three is reached by an examination in subjects of class two, and so on all through the public school course of a child; while the door between the public and high school is only to be opened by passing successfully the "Entrance Examination." And what awaits him there? As promotions and final entry into the high school are the goal to which the aim of the public school pupil is constantly directed, so when once in the high school he enters upon a course of training having for its object his ability to pass the intermediate examination, and, perhaps, ultimately the matriculation examination of some university. And, be it remembered, that examinations for promotions are not the only ones he has to face: "good schools" have weekly examinations and most have monthly ones.

And when he leaves the high school for the university, what then? Being no longer a boy of an age

when one may fairly expect him to be imbued with a love of knowledge, surely he can confidently be trusted to pursue it for its own sake? Not at all. Examinations sterner still stare him in the face, and at every step. And not only so; at the university, even more than during his school career, it is thought necessary to goad his flagging zeal in the cause of knowledge by dangling before his eyes sundry honours, golden scholarships, medals, etc.

Thus from the outset to the close of his educational career—from the time when he enters the public school as an infant till he leaves the university as a graduate, he has the value of the ability to *pass examinations* dinned into his very soul. Surely with us, as in England, "the mania for examinations has been pushed to its furthest limits."

Now is this a healthy or desirable state of things? It must be acknowledged that it is neither. Those who uphold it, point with pride to the results—that the system makes intrants for the high school at ten or eleven; intermediates at thirteen or fourteen; and matriculants so young that the university will not admit them on the score of youth. And they ask by what other system could you accomplish results like these? With what other lever could you so move the mass of school-boy sluggishness and innate love of idleness? We allow that the means are admirably adapted to produce this result; that is, that the system is admirably adapted for making pupils work to store their heads with facts, and for making them able to pour out, on examination day, what the teacher has poured in. But do not those who point to their success in this confound instruction with education? They tell us life is a race; and that the competition which examinations afford is a good preparation for that

race. Granting that post-school life is a race, resulting, it may be, "in the survival of the fittest," is it desirable that that race should be begun so soon as a child emerges from infancy? Is it human of us that we should be less considerate of our boys and girls than owners of "studs" are of their race horses? These are allowed to reach full growth before being "entered." We, indeed, often enter our children for the race before infancy is passed, and goad them on in it by examination after examination all over the course.

We say "goad them on," for what is the spur which the system disposes a teacher to apply to the pupil whose industry or whose endurance is flagging? Does he work upon the love of knowing things so natural to children,—encourage them to climb the hill of knowledge for the boon of enjoying the ever widening landscape that opens before them as they ascend, and does he debate on the supreme pleasure which a well stored mind at all times yields to its possessor? Does he, with the older pupils, point out that the difference between man and the brute creation is the possession of an intellect—that a man with an uncultivated intellect is on a par with the brute, and that he becomes a real man and surpasses the brute just in proportion as he cultivates his mental powers? Does he even take the lower ground and point out the superior usefulness—the many advantages—that accrue to himself and to the community from a man's being educated?

Is it not true that for once that a teacher's remarks take a form like this, ninety-nine times they take the following:—"I know where you'll be in Friday's examination; at foot of the list!" "So sure as you work no harder you'll be plucked at the next intermediate and thereby disgrace

yourself and discredit the school." Is not the jaded university class warned that "honours and scholarships are not to be had for the asking?" And if this is the case, let us not blame the teacher but the system which sets so much value on the mere ability to pass examinations. We may be sure that so long as a head-master is led to measure his assistants' work, not by the intellectual culture imparted—the independent thought evoked, but by the number they periodically get ready for promotion;—so long as the work of that head-master himself is measured by the trustees, by the municipality, by the educational authorities, and by the country at large, not by the number of men and women of sterling worth and character he turns out, a credit to themselves and useful to the nation, but by the number he pulls through the matriculation or intermediate examination, so long will teachers be induced to appeal to this low motive in pupils, and what is worse, perhaps, so long will pupils be tempted to rate a teacher by his ability to "coach" than to pass examinations. But, as some one asks, is not "a system whereby the teachers of a country are converted into 'coaches,' by its very nature, hostile to the true conception of education?" and it cannot be gainsaid that it is. Many thoughtful educators in England have come to see that examinations are far from being the unmixed good they were once supposed to be. The following remark quoted by Dr. Wiese is significant of the change of opinion that has recently taken place:—"No school which converts itself into a coaching establishment is a place of education in the proper sense of the term. There is a repose, a calm, a stability in the steady march of all sound education, which is alien to the feverish spirit which animates

the ante-chamber of an examination room."

Let us now look for a moment at the result of this rage for examinations. Any one who has followed us thus far is prepared to believe that, in this race for the prizes which are only to be won by passing examinations, education in any true sense of the word is almost entirely overlooked. It is to be feared that many of the young people into whose hands the bulk of the teaching of our common schools is entrusted have themselves no proper conception of *education* as distinguished from *instruction*. At best, their ideas of their calling rise no higher than the faithful discharge of the daily duty of "hearing" classes. And in this no blame attaches to them, for until the introduction of model schools they could only win the legal right to teach by passing the requisite examination in book subjects. The examination rush made education an impossibility in their own case, and they can only reproduce in their schools *mutatis mutandis*, the system which has produced them. If it is true that, till very lately, in the preparation of these young persons for their work, culture had no place, and since they cannot be expected to impart what they themselves have not obtained, it follows that it would be useless to look for much culture in our rural population.

That the low intellectual status of our native rustic population is directly traceable to the absence of education, properly so called, in our rural schools, no one can doubt. And here, we again disclaim making any charge against the teacher. We know that, youthful as many of them are, they discharge their duties most faithfully, according to the light they have. If they instruct much and yet educate little, the fault is not theirs; it rests with the system under

which they have been trained to set so much value upon the acquisition of mere book-facts.

Let us now turn and see how the case stands with high schools. We know that there are many of the older teachers of public schools in large villages and towns, and the vast majority of high-school masters and teachers who have as lofty conceptions of the nature of true education as any one can wish, and who feel keenly the degradation of their calling into mere "coaching" for examination. They wish to educate as well as to instruct; they wish to cultivate the mind and heart as well as to teach and fill the head; they wish to develop independent thought—to turn out men and women who can think and act for themselves and whose trained judgments shall be proof against sophisms of all kinds, whether propounded by politician or preacher;—they wish to send forth men and women with cultivated literary and artistic tastes; they wish to imbue their pupils with such a love for knowledge, *per se*, that they will, when school is left, seek their highest pleasure in continuing its pursuit.

But what time is there for this work, so important, it must be confessed, to the well-being of the individual and of the nation? What encouragement is there to enter upon it, since in its very nature it cannot be measured by a written examination? We think we can reply for high-school masters and teachers (especially since the establishment of intermediate examinations) by filing to both queries the answer—none or very little. So great is the abnormal pressure that has followed the introduction of the intermediate system into our high schools, that the desire to have a large number of successful intermediate candidates nearly swamps every other question.

The whole machinery of the school is arranged with a single eye to this purpose; every other consideration yields to it, and all work is valued by both teacher and pupil by its bearing on the intermediate examination. Masters find themselves scanning carefully the nature and extent of previous question-papers and arranging that so many subjects and so much of a subject shall be taught as will help a candidate "to pass the intermediate." And this is not because masters are unconscious that this sort of thing is not education; as we have said, very many of them feel keenly the degradation of having to turn themselves into "coaches" and "grinds." But it is because they find themselves obliged to yield to public opinion which has come to place a false estimate upon school work. By the way in which the results of intermediate examinations have been published, by self-laudatory notices of masters, in local papers, which sometimes contain an invidious and uncourteous comparison between the success of their schools and the non-success of other neighbouring ones, and by glaring advertisements of some Collegiate Institutes and high schools, now and then slightly colored to suit the public tastes, the public have been trained of late years to judge of the excellency of a high school by the intermediate pupils it passes. But, as Dr. Wiese remarks, with reference to the same evil in English schools, "the public in this case may be greatly deceived. We, in Germany, consider this very stimulus unsuited for the teachers as well as for the pupils, and we do not wish to see the quiet course of instruction disturbed in the manner in which it is done in England. We regard the school as too good a thing for such a purpose; it has higher aims than those of a 'racing stable' as some

one in England expressed himself in speaking of its schools."

We have stated our belief that in our Collegiate Institutes, high schools, and large public schools, there are masters who know well what education should be; but that the high pressure at which they have to drive the school machinery (particularly in high schools, in the manufacture of intermediate pupils) renders it next to impossible to pay any attention to it. Examinations being the criteria of success, teachers and pupils are led to set no value on that which does not qualify for passing them. Let us trace this result a little further, especially as it affects the after-life of high-school pupils, and see if we shall find anything more to congratulate ourselves upon than we did in the case of country pupils. We willingly concede that the introduction of intermediate examinations into our high-school system has given an immense impetus to high-school work—has vastly increased the amount of work "gone over," but we hold that the coaching and cramming, and the restless push to which it has given rise, leave no time for intellectual and æsthetic culture or for proper mental assimilation. Could teachers frequently give themselves the treat of "a talk" with their forms over some strikingly beautiful passage in literature, or object in art; or over some exhibition of noble and lofty conduct; or the treat of watching the look of extreme satisfaction and peculiar twinkle of eye which a boy's face manifests when light is dawning upon some knotty point because he has brought to bear upon it some piece of previously well assimilated information—has dove-tailed apparently disjointed facts,—they might expect to turn out youths imbued with a love for ac-

quiring and for pursuing these beauties in literature and art for themselves when school life is over. But the every recurring intermediate forbids teachers this pleasure. Our young people leave school, glad at escaping the drudgery of preparing lessons. They look upon the acquisition of learning with no friendly eye: can we wonder then that they don't pursue it? If they read at all, what is it they read? The reports of the librarians of Mechanics' Institutes and of free and circulating libraries of all kinds, join in the one lament that works of History, Travel, Discovery, Science, all remain upon the shelves, and that scarcely anything is sought by young people but the inevitable novel! If attempts are made from time to time to get up clubs for debate and mutual improvement, after a brief existence, they collapse and prove a failure.

Young people of both sexes thus leave our high schools, not only with no love for intellectual pursuits, but in the majority of cases with a positive dislike to them. And this is not the whole of the mischief. The severe mental strain, and the deprivation of proper exercise and rest to which young people from thirteen to seventeen are subjected when preparing for the intermediate and other examinations, cannot be otherwise than injurious to body as well as to mind. This effect has frequently been pointed out and deplored by Head Masters in the Annual Convention, and numerous cases cited in which girls and young women who had every chance of success had fairly broken down just before and during the examination, unable any longer to bear up under the intense strain. Not unfrequently parents who have had one son or daughter go through it, positively refuse to subject another of their children to the ordeal. It would

be a digression from the subject, else we should like to show how entirely unsuited several of the subjects of this examination are for girls, and to urge a revival of the programme, at least with regard to the amount and kind of mathematics exacted from them. But the following incident is not foreign to the purpose, since it exhibits another evil consequence of the system under consideration, viz.: the possibility of a young man being able to pass examination after examination, and yet be entirely wanting in all that constitutes an intelligent and well-read man. An undergraduate in one of the colleges in Toronto, in his third year, was spending the evening at the house of a friend of the writer, at the time the papers were giving the doings of Dean Stanley on this side the Atlantic, and the conversation turned upon that famous ecclesiastic. The undergraduate remarked that Dean Stanley was a great traveller. The host, who scented a joke, replied that he was aware that the Dean had accompanied the Prince of Wales in his tour in the East, but he didn't know that otherwise he deserved the name of a traveller. For his enlightenment the undergraduate remarked, "Why he has lately completed the journey across the continent of Africa." Since this occurrence the papers have reported this young man scholar and prizeman of his college!

But it may be said—"The whole tenor of your paper is destructive: to pull a system to pieces is far easier than to build up another in its place;" and it may be asked what have you of a constructive nature to suggest instead? It is but fair that before closing we should meet this question. Any one who has followed us and has interpreted our remarks as we desire to have them interpreted, will perceive that we have not written one word against the

usefulness of examinations in the work of instruction. We have conceded fully that a teacher possesses no more effective power for overcoming the inertia of youthful sluggishness than that of examinations, and no wise teacher will deprive himself of their assistance. It will be noticed that we have no complaint against examinations as a means to an end; our charge against them is that they have been exalted out of the catalogue of means to that of end; and that the ability to pass them has of late been made "the be-all and the end-all" of our educational efforts. What we want is to see them relegated to their proper place in the school economy, *i.e.*, used as tests to find out whether a form has correct, clear, and full ideas of what has been taught, in order, be it marked, that incorrect, confused, or inadequate ideas may be corrected; used as aids in the practice of composition, because their tendency is to make youths put what they have to say as tersely and as tellingly as possible; used as a means, if you will, of proving fitness for promotion, and entrance into High School, Upper School or University. As the teaching proceeds, we would have examinations kept entirely in the back-ground, and we would have the mind of the teacher perfectly

free from the notion that he is teaching for examination purposes, and we would have him combat to the death the notion in his pupils that they are learning for examination purposes. We would have all the information (having due regard however to its suitability) imparted and acquired as it is done now, but we would have teachers impart it and pupils encouraged to acquire it, not because it will be necessary in passing examinations, but because such acquisition is necessary to render them intelligent, thoughtful, cultivated, useful men and women. Let this be the object that teachers and pupils set before themselves, and then, that hurry, that drive, that over-exertion of mind and body, that ignoble aim, which is now so undesirable and so injurious a feature in the working of our schools (and since the introduction of Intermediate Examinations in the working of High Schools especially) will soon cease to exist. Then it will be no longer true that "in our days there is danger of schools becoming unfaithful to their duty as educational institutions, and of confining their function to the communication of knowledge and the cultivation of the intellect," forgetting that "the problem of education is to purify and strengthen the will."

WE live not in our moments or our years.—

The present we fling from us as the rind
Of some sweet future, which we after find
Better to taste, or bind that in with fears,
And water it beforehand with our tears—
Vain tears for that which never may arrive!
Meanwhile, the joy by which we ought to live,
Neglected or unheeded, disappears.
Wiser it were to welcome and make ours
Whate'er of good, though small, the present brings—
Kind greetings, sunshine, song of birds and flowers,
With a child's pure delight in little things;
And of the griefs unborn to rest secure,
Knowing that mercy ever will endure.

—Archbishop Trench.

SOME THOUGHTS ON SCHOOL HYGIENE.

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THE subject of School Hygiene is a very wide one—it might be the subject of a large volume, or several of them. At present I shall not attempt to cover the whole ground or even any large part of it in a synoptical way, but confine my remarks to showing the relations of the subject to the general welfare of the pupil and the teacher; and insisting on a clear recognition of the main principles, with a few practical hints. Let us, however, first consider what health and disease really are.

Suppose the individual to be born with all the natural organs in a normal state—and to be placed in circumstances favourable to the full, free, and harmonious use and development of the same, then the sum total of the exercise of all his functions may be considered as health. From this view of the subject it must appear that an infinite diversity must exist among individuals as to the degree of health they can by their organization enjoy. There is, besides, that variation from each one's best state which one calls indisposition or, again, positive illness. But it must be clear that one man's best health would be relatively indisposition in the case of another. Now the practical bearing of this point at the outset is that some persons should never attempt to be either close students or engage in a profession so trying to the organization

as teaching—especially teaching in our day. Everything now seems to be pushed to extremes. Men in all walks of life race, and the consequence is their life's race is soon run. The day of octogenarians is fast passing away. We are ambitious without restraint and we must pay the penalty. The question now with educationists and school boards seems to be not how shall such and such subjects be best taught and learned, but how much can be shown to have been written, etc., at a certain examination, after the shortest possible training, by the youngest possible pupils who have been taught of necessity, not alone by the best methods (that may have been so or not), but by the most forcible or forcing methods. Now I intend to say here, and on any other occasion, as a medical man as well as an ex-teacher, that nothing will tend to injure the health in the present day so much as the extreme forcing system at present in vogue. It will at once be concluded that a much greater amount of work, and of a much better quality can be done by those who observe in and out of school the laws of a sound hygiene; but it must also be equally strongly stated that with the most perfect observance of these laws in all respects, save the one of moderation in exertion, the result may be disastrous. You may feed and house and groom

a healthy horse perfectly, and yet you may drive him to death. We hear various explanations of the greater longevity attained by our fathers, and a few in our day—but I venture to say that it was not because they lived on porridge or cracked wheat, and rose at four in the morning, and went to bed at twilight—but because they moderated their ambitions and so their exertions; while at the same time they were not flagrant violators of ordinary physiological laws. Let us consider what the relation of the various parts of the human economy are to each other, briefly, and then estimate how their harmony is liable to be disturbed in the case of pupil and teacher.

Every tissue of the body is composed of microscopic elements which have originated from cells. These minute portions of each part are constantly being destroyed and reproduced, and it is only when the forces of reproduction prevail over, or, at least, equal those of destruction that the organization can be said to be prosperous—to be in health. For this perfect result there are two great requisities.

(1.) An abundant and healthy blood supply. (2.) Healthful nerve influence. It is to be noted as a proven fact, that the latter is as essential as the former; that impressions of a mental kind can produce disorders of nutrition. Every one is aware that sudden grief may produce loss of appetite, vomiting, etc. But all do not appreciate the fact that our oft-repeated little troubles—our microscopic ills—may and do interfere with this process of nutrition, and so in time seriously injure the health by producing injurious nerve impressions, as has been explained—these originating in the main nerve centre, the brain. It follows, therefore, as the necessary corollary of this, that,

(1.) Those only may expect to enjoy the best health as teachers who love the work of itself, and have that steady feeling of contentment and positive pleasure that such a feeling brings.

(2.) Those are most favorably placed as regards health, who instead of looking at school-work as a monotony to be dragged through with, have the art of taking an interest, perhaps even a certain degree of amusement or pleasure, out of everything that crops up in each day's work. There is just so much monotony in school life as each teacher puts into it. This concerns the teacher; for as the master, so the servant. If he is sour, the pupils will be like the one they most naturally imitate.

And on the subject of monotony and the importance of a healthy nerve-influence, let me impress on all who follow me the value of beautiful and changing surroundings, not now from an æsthetic point of view, but from the more readily appreciated one of their influence upon the health. People speak of change of air and scene—that good follows we all know. Why? Because there are some new sort of thrills it would seem produced in the nervous system by the change of sight and sound, and all this is helped by change of diet, of air, etc. Everything wears out—loses its power; just so certain influences grow stale and need to be replaced. The nervous system requires new kinds of stimulants as much as the stomach new varieties of food, however good in itself that food may be.

From this, it would appear that a pretty school house, and handsome grounds especially, as they are perpetually changing—offering something new every day—are not matters of trivial but of great importance as regards health of pupils and teachers. Space will not permit me to expand this idea further; but has the

subject, I ask, received that attention, in the aspect now presented, it deserves?

The subject of healthy blood, also, demands attention. The matter is generally looked at in what seems to me to be a less scientific method. We hear much of bad ventilation, but this leads to pollution of the blood and acts in a variety of ways. Let us note first what we require from the air, and the quantity. The oxygen of the air is selected from the mixture of the two gases in the lungs, embodied in the red blood corpuscles, and thus carried to the tissues.

Now part of the effete matter of the system is given off from the lungs—in the form of minute broken down particles of ourselves—and our own tissues, carbonic di-oxide, is exhaled in about equal proportion with the air inhaled at the same time—vapour saturated with a kind of extract of our bodies passes off from both lungs and skin constantly. That from the skin, especially, is pregnant with injurious acid vapours; and unless the children may be cleanly—certain other injurious exhalations mingle with those that are necessarily present.

Now a school-room is perhaps the most awkward of all places in which to carry out the laws of physiology in regard to a due purification of the blood.

(1.) For every one is supposed to use his brain actively, and so require a large blood supply.

(2.) Those engaged in almost every other sphere, breathe freely, recklessly if you will—but in the school room there is enforced quiet. Hush! hush! And the chest must scarcely dare to expand. But they sing—they repeat aloud. Yes, both admirable—both essential to the development of the respiratory apparatus. Our singers never die of consumption, it might almost be said. But then it makes all the difference

what kind of air is breathed. If the air be vitiated by the unusual use of the vocal organs, additional air and so much more of the poisonous matter is pumped into the lungs.

We should like to insist just here on the value of a judicious use of the vocal organs, as in singing, for the health.

It is not essential to health that the lungs be filled to their fullest capacity all the time, but it is very desirable that they should often be filled two-thirds, and at least twice a day fully. All boys and girls should run. If it could be made fashionable for young ladies to continue the running of their girl-hood, it would be well for them and their posterity. A large heart—a deep pair of lungs. O what two fortunes in themselves! Happiness and health—vigorous health—have a closer relationship than has ever yet been fully recognized.

What then are the requirements for a full supply of oxygen? Says Huxley, "To be supplied with respiratory air in a fair state of purity, every man ought to have at least 800 cubic feet of space ($9 \times 9 \times 9 = 729$) to himself, and that space ought to be freely accessible, by direct or indirect channels to the atmosphere."

Uneasiness and headache arise when less than one per cent. of the oxygen of the air is replaced by other matters.

How to attain this result practically is a difficult problem. If school houses could be built large enough to have one room occupied only half the school session, so that it might be ventilated in the absence of the pupils while they pass from one room to another, again furnished with a completely fresh supply of air, the difficulty could be got over; but all means of ventilating while the inmates continue to remain in the room for six hours together, have, it is feared, partially failed in this respect.

We get ventilation, but we get colds—or the ventilation is good at one time and poor at another. Each teacher, however, who comprehends well what is aimed at, and who is observant and painstaking, will do much by the exercise of ingenuity and common sense. But close observation and the observance of system are essential—else the hard-working enthusiastic ones will forget all about this matter, and pull, as it were, against the current. A brief notice as to how vitiated air acts on the economy will be worthy of careful consideration.

(1.) The effete animal matters irritate the air passages, and may provoke bronchitis if other circumstances favor its onset. They may be absorbed again into the blood, and so poison it.

(2.) Carbonic di-oxide acts on the economy in large quantity like opium—is a stupifier—hence the unconsciousness that follows from strangulation. A limited quantity of this gas renders the subject who inhales it listless—dull to perceive—it acts on the nerves, irritating them. This, when extreme, may culminate in a convulsion as in the case of animals hanged, when, of course, all the carbonic di-oxide of the body is retained. Its minor effect is great restlessness and irritability. I beg to call especial attention to this latter effect, for it has led to not a little misconception and injustice.

It is an observation with which all teachers will agree that from three to four o'clock in the afternoon the management of a class is more difficult by far than at any other time of the day. Part of this difficulty is due to the weariness both teacher and pupils experience at that hour. But this is not all—perhaps not the greater factor in the case. The air has been growing more and more unfit for respiration

—yet it must be inhaled—the pupil is weary—his vital processes are being carried on with less vigour and correctness. His blood is getting impure—his nerves feel the effects—they are irritated by this blood loaded with poisonous matters that nature made a special provision to get rid of, but which society contrives to keep in—the nerves are irritated by it just as the tongue is by acids, and a general feeling of uneasiness ensues—general because the nerve distribution is universal. When your class is restless and you do not know what is the matter, lay aside the strap and let in fresh air.

The state of things referred to is aggravated by the irritability of the teacher. She exaggerates the conduct of her class because she is constantly annoyed from the same cause as that which is her source of worry as far as her pupils are concerned.

Now, however poor your arrangements for ventilation, this much can be done by anyone. At every recess, open all the windows—at noon time leave these open for a considerable time, stirring up the fire in winter if necessary—so that the pupils will always return, at least to rooms full of pure air. When you open the windows, if this be the only method at your disposal during the school recitations, if there be danger of some catching cold—let the class stand and go through some simple gymnastic exercises which by producing a more rapid blood-flow will obviate the danger from draughts, and will relieve and brighten up the little workers who soon get very fond of this. It is useless, it is against all physiological rule to insist that any young animals shall remain perfectly quiet and motionless for hours together—and those who enforce such quiet are acting the tyrant over nature and, unwillingly it may be, are

cruel. Laws of life are before laws of education. "*Sana mens in sano corpore*"—but you cannot have the *sana mens* without first the *sanum corpus* and insanity is by the most scientific of the present day now regarded not as a disease of the mind, but as the result of a disease of the body—of the brain chiefly. Nor by the observance of the above simple rules, will the teacher lose time. The law of change, or, as I will call it, the law of new nerve influences, must be observed by all who will succeed with the young. Is not this one great secret of the success of the Kindergarten system—the most philosophical, indeed the only philosophical system of education yet proposed, and which, if carried out all through our educational fabric to the end of the university career, would lead to results as yet not only not attained, but not dreamt of. Let me here, too, stop to put in a plea for troublesome boys—the ones who so often suffer castigation simply from nature's asserting her unchanging laws. The most troublesome, restless pupils are often the most talented. Did you ever notice that boys who make little progress with books, and are very inattentive in school, often show great practical talent; when you really test the extent to which they have observed in the outside world, know far more than your quiet and so-called studious ones. Their intellects refuse to be crammed—they wish legitimate knowledge got by contact with facts, not books.

They have vigorous bodies—they cannot tolerate the restraint of the school-room as it exists now—they want to use their hands as well as their heads, as all young workers should, and their restlessness is simply nature's rebellions against our somewhat unphilosophical methods—artificial methods.

I speak now the result of my repeated observation in a school of 400 pupils for two years, and on a smaller scale for many years. Do not, of course, suppose that I thus excuse all bad boys or all misconduct in school. But I can certainly say, that among the 400 that I just now referred to, the best of them, for any practical matter, was a boy whose restlessness was such that no teacher had ever succeeded in keeping him quiet. Those succeeded in getting the most work out of this boy who gave him the little business messages, etc., of the class to perform. Let us consider well before we strap such boys. Nature may avenge herself on us.

With a view to escaping this awful worry which acts on us like friction on machinery—first putting it out of order and then smashing it up—allow me to insist on the observance of system and order in school work. This is certainly one fine feature in our modern systems. I fear we even go to extremes in the classification of our pupils in the large cities—making divisions that look well on paper but which do not exist in nature, yet which the necessity of the case demand from the limited means with which we carry on the great work of education. People will pay less for education than they will for mere luxuries—for empty show, as good old Roger Ascham said in his day. Some do pay more for the training and breaking in of a colt than for the education of the minds of their sons.

The subject of pastimes, games, amusements, etc., in relation to health, beyond showing, as has been done, how they act physiologically on the principal of all the systems—the nervous—must be passed by at present, also the subject of muscular development, etc.—and, indeed, no systematic treatment of the subject

of school hygiene has been attempted—but an effort has been made merely to set forth clearly the two main principles to be observed for the

enjoyment of health in any sphere—and especially in some of their aspects which it seemed had not before been very strongly insisted upon.

THE TRAINING OF FIRST-CLASS TEACHERS.

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THE prominent feature of recent educational changes is the increased attention now paid to professional training. An effort is being made by means of County Model Schools to supply what used to be a serious defect in the preparatory course of Third-class Teachers, while the utilization of the Provincial High-schools for the education of Second-class Teachers in Literature and Science, and the altered character of Normal School work so far as this grade is concerned, mark an important era in the history of both classes of schools. No doubt there must be many modifications of the present scheme before the Model School system can be regarded as complete, but the first step has unquestionably been taken in the right direction. With the Second-class teacher, however, the case is different, and the public may fairly be congratulated on the success which has so far attended the existing arrangements. As is well known, the change in both cases was due to the disproportionate increase in numbers of the lowest grade, the almost uniform absence of systematic professional education on the part of a very large number of masters, and the impossibility, under the then existing regulations, of remedying these defects without burdening the Province with the expense of additional Normal Schools. It is not unlikely, either, that the general im-

provement of the High Schools, and the fact that in them, even before the passage of the last School Act, a good deal of the work of preparing teachers had already been done, brought out more clearly the impolicy of the course that had been pursued. The alteration of the work of the Normal Schools to the purely professional training of one grade of teachers, is specially important, for it is a departmental admission that this is their true function; and it naturally follows that the continuance of a literary and scientific course of study in these institutions is justifiable only on the ground that the other schools of the Province are not in a position to do for the First-class Teacher what they now do for the lower grade. If it be true that both the High and Public School systems, and the public interests generally, would be benefited by the restriction of the Normal School programme to the professional training of First as well as Second-class Teachers, it will not be easy to defend the present arrangements in reference to the former. With a caution that under the circumstances was necessary, the experiment of engrafting on the High-school system what had been one of the Normal School functions, has been tried in the case of one grade of teachers. The object of this paper is to show that the time is fast approaching when

it will be wise policy and true economy to extend the operation of the new scheme to the highest grade as well. But first it will be proper to state the advantages that have accrued to education even from its present limited application:

1. Another *raison d'être* has been conferred on our High Schools, which establishes a claim on public support that in many places is the strongest argument for municipal generosity. Their claims on other grounds are no doubt equally cogent, but this is one in which the case of an efficient school comes home to the most economical councillor. The almost general acquiescence in the clause of the last School Act, which throws on the counties more of the burden of the support of these institutions, shows that this, amongst other things, has secured for them a recognition which had been refused to them before.

(2.) The High and Public Schools have been brought more closely together—a more decided unification of our school system has been effected. The Public School Master of the future will have been the High School student, and we may look for the complete extinction of an antagonism which still lingers in some localities.

(3.) The High Schools themselves have been improved. Example is contagious, and the introduction of a class of earnest students cannot fail to have a good effect on the ordinary school-members. On the other hand, many a teacher by attending a High School is induced to set his face towards a University career, whose highest ambition might otherwise be a Public School teacher's certificate. And further, as the Science optional group is that generally selected by the candidate for a Second-class certificate, more attention is now paid to Natural Philosophy and Chemistry than was usual under former regulations. High School Masters who are

not willing to be left behind in the race are forced to maintain, in some degree of efficiency, regular classes in elementary Science, of which any pupil may avail himself as well as the teacher in training.

(4.) The separation of the professional from the non-professional training of Second-class teachers has in itself greatly improved both courses, for it has directed special attention to each; while, by devoting themselves solely to the former, the Normal Schools have found their proper work, and under the system pursued necessarily do it better than when the sympathies of both masters and students were divided. And further, the competition which has sprung up amongst High Schools for this class of students, however harassing it may be to the masters, cannot be regarded as prejudicial to the education of the Second-class teacher in Literature and Science.

(5.) An increasingly large number of trained Second-class teachers are yearly provided, the advantage of which will soon show itself in the general improvement of our Public Schools. Under the late regulations a teacher might obtain a Second-class certificate, as indeed the candidate for First-class is still able to do, without having received any professional education other than what he picked up in the school-room, or gleaned from his private reading. The present arrangement properly forces him to take a session at a Normal School.

Although the new scheme had been in operation for only a year, it was found necessary last September to refuse admission to the Normal Schools to about two hundred applicants for professional training as Second-class teachers, many of whom have been from this cause thrown out of employment, or are now teaching by special permission of the Department on extended Thirds. If this state of matters

were to be regarded as merely temporary, the necessity for a change of some kind would be less obvious, but the capacity of the Normal Schools is limited, and under existing arrangements they are unable to send out more than three hundred and sixty Second-class teachers a year. There certainly is one way in which the authorities can put an effectual check on the production of holders of non-professional certificates—by increasing the severity of the examination; but this is a remedy that for some time to come would be both impolitic and unjust. To a gradual rise of the standard within limits there can be no objection, provided it keep pace with, and be not in advance of, the progress of education. The *per saltum* principle, however praiseworthy it may be in the arrangement of some matters, is indefensible when it affects the complex machinery of our schools; nor is one bound to admire the eccentric orbits of the examinations of July and December, 1877. There can be little doubt that unless this expedient be resorted to, the number of applicants for admission to the Normal Schools will steadily increase instead of diminishing. All the efforts of the Department have been directed to this end, and this question, though it may be shelved for a time, will soon be up for settlement. Such a result is not only desirable but desired. Another Normal School would, of course, afford a ready but expensive solution of the difficulty. It may, however, be possible to utilize for some time yet the existing machinery without greatly increasing the cost of an already costly system, by restricting to their proper functions the Normal Schools we have, and, while providing in the High Schools for the requirements of First-class teachers in Literature and Science, to advance the general interests of education.

It is important to consider the fol-

lowing in connection with this question:—(1.) A teacher who holds a Second-class certificate, and has taught for at least two years, may obtain on examination a First-class of any grade, having obtained his education by private study or by attending a school. In other words, the First-class teacher is in the same position as the Second-class teacher was before July, 1877. The regulations do not recognize the absolute necessity of further systematic professional education, and, though these are the men from whose ranks the future Model School Masters and Public School Inspectors are to be drafted, the elementary training they obtain in a few weeks at Toronto or Ottawa, when qualifying for a second, is regarded as enough for the efficient discharge of the duties of these important offices.

(2.) Even at the Normal Schools which now claim to train First-class Teachers in both the professional and non-professional subjects of the course, the former are in a great measure subordinated to the latter. The following analysis of the time-table now in operation in the Toronto Institution will show to what extent this is true: the table shows the number of hours devoted to each subject every week:—

Elocution	....2	hrs	Calisthenics	... ½	hr.
Literature	....2	"	Botany	.....1	"
Physics	.....1	"	Geography	.. ¾	"
Algebra	.....2	"	Drawing	..... ¾	"
Nat. Philo's phy	1 ¾	"	Drill	..... ¾	"
Book-keeping	¾	"	Physiology	.. ¾	"
Arithmetic	..1 ¾	"	Religious In...	¾	"
Grammar	....2	"	Atten'ce, Model		
Euclid	.....2	"	School	....1	"
Chemistry	....2	"	Teaching in		
Writ. Examina			Model School	½	"
tions	.....1 ½	"	Education or		
Music	.....1	"	Elocution	..1	"

It is evident, therefore, that the work done in this Department of the Normal Schools is to a great extent that of the English course of the fourth and fifth forms of our High Schools, and that though theoretically

the professional and non professional training in some branches might be concurrent, the anxiety of the students to pass an examination in which the distinctively professional subjects are conspicuous for their unimportance, and the natural anxiety of the Masters to fit them for the ordeal, can have but one effect on this course of study. It is also noteworthy that fully one-half of the time of the members of the Normal School staff is spent on the class in training for first class certificates.

(3) The attendance of candidates for First class certificates is generally very small. Towards the close of last session, the number at Toronto was reduced to about a dozen, and the Ottawa staff had to concentrate their energies on a solitary student. If there were no other mode of providing for the requirements of this class of teachers, the end would justify the means; but, when the same work is being done elsewhere at far less cost, the maintenance of the present system involves unnecessary expense and a loss of educational power.

(4.) The English and Science departments of the Upper School programme of our High Schools is identical with the course of study prescribed for First-class teachers, if we except what must in courtesy be called the professional subjects in the latter.

(5) Some of the High Schools now undertake to train candidates for First-class certificates, but necessarily at a disadvantage, owing to the admixture with Literature and Science of other subjects, for instruction in which the Normal Schools have, as matters stand, special facilities, and to the absence of any inducement to render this department efficient.

It will be seen, then, that the two classes of schools are now related to the question of the training of First-class teachers, in precisely the same way as they were to that of Second-

class teachers before the inauguration of the present scheme. Both High and Normal Schools now undertake the First-class course, and from the nature of the case the professional subjects are practically treated as of comparatively little importance.

The writer believes that, if the professional and non-professional courses were separated for First as well as for Second-class teachers, the former being relegated wholly to the Normal Schools, and the latter to the High Schools, the change would be beneficial to general education, and at the same time more fully meet the special requirements of the profession. The acceptance of the principle in the case of Second-class teachers is an admission of its correctness, while the marked success that has attended the experiment justifies the further extension of the system. The advantages which have been claimed as resulting from the present limited utilization of our High Schools would be increased. The High Schools would become more popular; the school system would be rendered more symmetrical, and each class of schools would have a well-defined place and well-defined duties in the scheme of public instruction. The Normal Schools, in particular, would thus be enabled to devote themselves wholly to their proper duties; the professional training of teachers, if properly carried out, would become an integral part of a well-ordered course, and important branches of study which are now omitted might receive the attention they deserve. Foremost among these may be placed Psychology. Although the elements of this Science, and of the Philosophy of Education, should be known to every teacher, it is chiefly to the Model School Master and the Public School Inspector that the Province must look for the dissemination of correct notions on such subjects, not necessarily in the form of set lectures, but as occa-

sion may offer in the discharge of duties which offer special facilities for the task. Year after year it has been a ground of complaint at Teachers' Conventions that so little value has been attached to professional education at the provincial examinations for First-class certificates, and the teachers themselves have tried to impress upon the department the necessity for a change. The separation of the two courses of study would give a prominence to each which is unattainable under existing arrangements, and the wish of those who for other reasons ask for a division of the subjects might be easily and advantageously complied with. It is not likely, either, that the education of such students in Literature and Science would suffer in schools that have become the mainstay of the Provincial University. But the utilization of the High Schools for the non professional training of First class teachers would confer additional benefits on both classes of schools. The discontinuance of the literary and scientific courses in the Normal Schools would relieve the masters of duties which now occupy a large portion of their time. For years to come one session of a few months would be sufficient for the professional training of students desiring the full rank of First-class teachers, and the rest of the masters' time would be available for the instruction of another division of candidates for Second-class certificates. Instead of admitting one hundred and twenty each session as they now do, the Normal Schools would in this way be able to accommodate twice that number for two of the three sessions in the year. Certainly one Model School of the dimensions of the Toronto one, might prove insufficient, but the example of Ottawa could be easily and inexpensively followed. There are, no doubt, difficulties of detail, but from a teacher's standpoint they do

not seem insurmountable. So far as the High Schools are concerned, the advantages of a change would be marked. At the Teachers' Convention in Toronto, in August, 1877, it was the unanimous opinion of the High School Section that the introduction of the Intermediate, and the absence of a University Matriculation Examination in Science, were dwarfing to the elementary requirements of the former examination in the study of Natural Philosophy and Chemistry in the schools of the Province. The ordinary Matriculation Examinations, and the recently introduced Local Examinations for Women, develop one side of the High School programme, whereas, except in the few schools where the work of First-class teachers is now attempted, instruction in Natural Philosophy and Chemistry generally ceases at the Intermediate line. This is certainly to be deplored. The principle of controlling educational work by examinations has been inaugurated, and it is only reasonable to expect that undue attraction in one direction will produce an unsymmetrical result. The introduction of candidates for the highest grade of certificate amongst ordinary students who have taken for their Intermediate the Science group, would at once develop this department of Upper School work, and the present lop-sided course would become *totus, teres, atque rotundus*. The study of Natural Philosophy, Chemistry, Physiology and Botany—those important subjects of modern education—would in this way receive in our best schools increased attention, and all classes would in time participate in the advantages of the change. The preparation of Honor Matriculants is not confined to a few schools, neither would that of candidates for First class non-professional certificates. No change would be required in the High School course of study, and no additional

classes in most, except for those subjects enumerated above, which now have little value from an examinational point of view. Every master who prepares candidates for the Intermediate knows how easy it is in many cases to induce the young High School entrant—who aims at a Third-class Certificate—to aspire to a Second-class non-professional, before proceeding to teach on the former. And under the arrangement suggested, the holder of a Second A. non-professional Certificate would often need little persuasion to remain at school until he had obtained a still higher grade. So that one effect of High-school influence would be to supply our Public Schools with many holders of Second-class Professional Certificates who had already obtained a First-

class non-professional. We may in time have too many Second-class teachers ; we cannot have too many of the highest grade. The general interests of education would also be benefited. As matters stand, the University Examinations—Matriculation and Local—provide “Leaving examinations” for students of Classics, Mathematics, Modern Languages and English ; the non-professional First would become the “Terminal” for the student whose means and opportunities might not allow him to take a University course. No new examination would need to be invented to harrass the unfortunate victim of educational experiments. This one would wear a familiar face, and be robbed of half its terrors for both master and student.

FIRST PRINCIPLES OF EDUCATION.*

BY A. W. GUNDRY, TORONTO.

THERE is scarcely any subject of human interest which has not been submitted during the present century to a more rigorous process of overhauling and reform than at any previous period. Our age has been, so far, at any rate, one of universal, merciless, and radical criticism of old theories, old customs, and old beliefs. To very many it has seemed that the spirit of the day was purely destructive and iconoclastic ; and not a few worthy people consider it absolutely retrogressive, and sigh for the more “settled” times of long, long ago. But they may safely be said to be in a minority now ; and the firm conviction

of mankind in general, and of all but a small and eccentric school of the deeper thinkers, is that we have taken vast strides in advance of our fathers, and that our age is one not only of transition and upheaval, but of astounding progress. Moreover, signs are not wanting that we are beginning to emerge from the intermediate stage of criticism, analysis, and destruction, into that of reorganization and synthesis ; beginning to build afresh upon the *disjecta membra* of the old errors we have overthrown.

Turning to Education, we find that its condition has been no more stationary than that of any other matter

* EDUCATION : INTELLECTUAL, MORAL AND PHYSICAL, by Herbert Spencer, New York : D. Appleton & Co., 1871.

of vital and far-reaching importance. It has, in truth, been the subject of more attention, of more discussion, and of more controversy, than almost anything else, if we except religion. Fifty years ago there was, speaking broadly, but one system of education; that system which over-fed and over-exercised the mind, and under-fed and under-exercised the body; which translated *educio*, "I cram in facts," not "I draw out faculties;" which tasked the memory and snubbed the reason; which considered mythological fables and correct scanning more important than scientific truths and correct living. To-day there is nearly as much dissent from this old academical orthodoxy as from the old ecclesiastical orthodoxy. On every side we hear of "some new thing" in education; some fresh theory, some sanguine suggestion. We have watched the battle of Classical *versus* Mathematical subside into occasional local light-skirmishing, and have seen it followed by the advance of natural science upon the strongholds of literary and metaphysical culture. We long ago decided against the hot-house mental forcing system, and wrote up as our motto, *mens sana in corpore sano*; it being a question, in England at any rate, whether the reaction has not gone too far in favor of the body. Corporal punishment has been frowned down to a mere gentle reminder of what it once was; and the "tunding" case at Winchester raised, at the time of its occurrence, an energetic discussion of the wisdom of the monitorial and self-governing system among public-school boys. These, together with the numberless other controversies and changes, at which we cannot now even glance, indicate, without doubt, a state of healthy and promising activity; and from out the clash of conflicting theories and systems much good has been and will yet be evolved. This stage of zealous

enquiry and suggestion, although it may, superficially, present an appearance of some confusion, is a great step in advance of the uniformity of stagnation which preceded it. But it is an advance only when considered as a transition stage to another and ultimate uniformity, that of demonstrated and established principles. It is as a means, not as an end, that all this dissent and controversy are valuable; and if they were to lead to nothing definite and settled, they would be the symptoms of a feverish unrest than which even a stationary conservatism would be less hopeless.

Therefore it is well to enquire whether, in all our reforms and among all the changes of late years, we have been indeed advancing, or whether we have been working at random. Have our improvements been made on the patchwork and cobbling system, or have they been carried along the lines of first principles in the endeavor to approximate to a definite ideal? Have we any clear conception of the ends in view? In short, have we settled the one question which underlies and embraces all the rest, whether our educational system is to be empirical or scientific—scientific, that is, not merely in subject-matter, but in its methods and aims?

There is, happily, no doubt that we have not merely patched up the outworn errors of a false system, but have made real and material progress, based upon a general conception of the necessity of adhering to first principles; although there has been a somewhat limited and vague recognition of the actual nature of those principles. Education, perhaps, more than most other subjects, has felt the great scientific influences of the day, and has been pressed forward by them. It has received direct impressions from the liberal educationists whom these influences have produced, and who have done valuable work

in branches of the system. But they have been, as specialists, too near to its details to view it as a whole, and to make their improvements symmetrically and harmoniously with one great and consistent plan,—or even to gain, unaided, a full conception of such a plan. Fortunately, however, they have not been obliged to interrupt their more practical and immediately useful labours to elaborate one; nor to allow it to evolve itself slowly from the accumulation of experience. Eighteen years ago there was brought to bear on the subject of education an intellect which has seldom, if ever, been equalled for its powers of analysis and organization, cultivated by years of profound speculation, and possessing such an enormous range of positive knowledge, as together fitted it pre-eminently to take a broad, comprehensive, and accurate view of any question, and especially of this. Especially, we say, because Mr. Herbert Spencer, to whom we refer, had even then a firm grasp upon that great principle of evolution underlying universal progress which, dimly perceived before, has been brought so near to conclusive demonstration by him, and the application of which to the problems of education was no less successful in throwing invaluable light upon them, than it has been in clearing up the difficulties of the many other and profounder subjects to which it has since been tried as a key. Mr. Spencer wrote a series of four articles on Education in the *Westminster, North British and British Quarterly Reviews*; and these were in 1860 published by the Messrs. Appleton, in one volume, the title of which we have already quoted.* This work has therefore been before the public and in the hands of many educationists for more than eighteen

years, and it is certain that its influence has been strongly and widely felt. In proof of this fact, if proof be needed, there has been the frequent testimony of practical educationists in different parts of the world to the actual trial by them of Mr. Spencer's methods, and of the successful and encouraging results. This is the sort of evidence which cannot be gainsaid, and to which we refer all who are sceptical, in preference to laying even a fair stress upon the praise which the press has given the book.*

Some apology may be deemed needful for assuming to draw attention at this late date to a work so well known and so widely appreciated. But, even if we had not considerable doubt whether it has been much read in Canada, we should still think it by no means amiss in the initial number of a magazine of the present character, to recur, to the first principles of education, and to insist upon the importance of mastering them suffi-

* The *Popular Science Monthly* for November last, says of the work: "Its chief value is in pointing out the way to essentially improved methods of study. This is strikingly shown by the fact that the book has been translated into the different languages of Europe, in nearly all cases either *by or at the instance of men who have been officially engaged in the work of forming and carrying out systems of public education.*" The author of "Twenty Years' Residence Among the People of Turkey" says that she visited a "Greek school at Salonica, which was under the direction of a Greek gentleman educated in Germany, who has designed a new educational system, which, having had a fair trial, *will eventually be adopted in all the educational establishments of the Greeks.* . . . Of all the schools I have visited here and elsewhere, this certainly struck me as being the best and most perfect of its kind." The director explained to her that he had combined the routine of work "partly from the system he had studied in Germany, and partly from ideas suggested to him by reading the philosophical works of Herbert Spencer, for which he appeared to have a great admiration." We select this as a recent instance from among many others, which space will not allow of our citing.

* A cheap edition is now published, or is about to be published in England.

ently to carry on all the work of detail in accordance with them and not in violation of them. We will therefore proceed to outline very briefly some portions of Mr. Spencer's work; trusting that those who have read it will not resent our refreshing their memory, and that those who are unacquainted with it, will not be satisfied with our summary, but will turn to the work itself.

Setting out with the fundamental question, "What knowledge is of most worth?" Mr. Spencer in his first chapter demonstrates conclusively that the answer must be—Science. He shows that it is one of the laws of progress that the ornamental precedes the useful, in point of time; the savage tattooing his body brilliantly before he thinks of the desirability of clothing it. Up to the time at which Mr. Spencer wrote, at any rate, our education had been in the lower and analogous condition, aiming at mere mental adornment, and seeking rather to give the means of making an imposing display than to subserve any really useful end. To rise above this condition we needed some standard by which to test, not merely the individual value of each branch of knowledge, but the relative values of all the various branches; by which means we might hope to answer the vast question with which we set out. This measure of value is to be found in the bearing of each branch of knowledge on life and conduct. The function of true education, Mr. Spencer maintains, is to prepare a man to live a complete life;—to discharge to the full extent of his faculties, his duties to his own body and mind and business, to his family, to society; and to be capable of duly enjoying all those sources of happiness which Nature supplies. Therefore each branch of knowledge will be valuable in proportion as it subserves this function. Proceeding to apply this test, Mr.

Spencer brings the problem into manageable shape by classifying the various kinds of activity which make up human life in the true order of their subordination; giving the place of prior importance to each division, which is a condition precedent to the existence of the next. He arranges them, therefore, as follows:—“1. Those activities which directly minister to self-preservation; 2. Those activities which, by securing the necessities of life, indirectly minister to self-preservation; 3. Those activities which have for their end the rearing and discipline of offspring; 4. Those activities which are involved in the maintenance of proper social and political relations; 5. Those miscellaneous activities which make up the leisure part of life, devoted to the gratification of the tastes and feelings.” Taking these divisions in turn, Mr. Spencer ascertains what knowledge is of most worth in its bearing upon each, and finds that in every one of them scientific knowledge is the *desideratum*. We will briefly indicate how this conclusion is reached in each case.

1. “Happily, that all-important part of education which goes to secure direct self-preservation, is in great part already provided for” by Nature. During infancy there is protection in the instinct of self-preservation; and subsequently the child acquires, by the rough but benevolent discipline of experience, a knowledge of how to control its movements and avoid small dangers. Our duty is merely to see that Nature is not thwarted by unwise repression of that spontaneous activity, the indulgence in which gives a child this salutary experience. But this alone does not complete the education required for direct self-preservation. The body has to be guarded not only against merely mechanical damage, but also against the disease and death which must follow breaches of physi-

ologic law. Nature, indeed, has given us, in our sensations and desires, guides which are trustworthy as long as they are not vitiated by abuse; but their authority is not commonly even recognized, and consequently some knowledge of the elements of physiology is of the deepest importance. By ignorant violation of its simplest laws men are daily impairing their faculties, wasting their energies, and making terrible deductions from the usefulness, happiness, and length of their lives.

2. In the second division, embracing those activities which, by securing the necessaries of life, indirectly minister to self-preservation, scientific knowledge of some kind is absolutely essential. The great majority of men "are employed in the production, preparation, and distribution of commodities." Efficiency in those employments "depends on the use of methods fitted to the respective natures of these commodities; it depends on an adequate knowledge of their physical, chemical, or vital properties, as the case may be; that is, it depends on Science." Our author then exhibits the inseparable connection of the various sciences with all the industries by which men gain their living; the necessity of scientific guidance in the investment of capital, and in the prosecution of large joint-stock undertakings, and the fact that, as competition makes productive processes more scientific, as it must do, an ignorance of science will become more and more ruinous. "That which our school courses leave almost entirely out, we thus find to be that which most nearly concerns the business of life. All our industries would cease, were it not for that information which men begin to acquire as they best may after their education is said to be finished. . . . The vital knowledge—that by which we have grown as a nation to what we are, and which

now underlies our whole existence, is a knowledge that has got itself taught in nooks and corners; while the ordained agencies for teaching have been mumbling little else but dead formulas."

3. For the third great division of human activities—"those which have for their end the rearing and discipline of offspring"—it is an astounding fact that no preparation whatever is made. To fit a man to be a carpenter, he is required to undergo some training; to fit him to be a parent, none is thought necessary. The responsibilities of parenthood are assumed by thousands in utter ignorance of the most elementary laws of physiology, and thousands of young lives are in consequence sacrificed or blighted. The young lady who at school has been drilled by learning names, words, and dates, and whose self-culture has been one of piano-playing and novel-reading, becomes a wife and a mother. "And now see her with an unfolding human character committed to her charge—see her profoundly ignorant of the phenomena with which she has to deal, undertaking to do that which can be done but imperfectly even with the aid of the profoundest knowledge. She knows nothing about the nature of the emotions, their order of evolution, their functions, or where use ends and abuse begins. . . . Ignorant as she is of that with which she has to deal, she is equally ignorant of the effects that will be produced on it by this or that treatment. What can be more inevitable than the disastrous results we see hourly arising?" Without a glimmering of the first principles of psychology, or of mental evolution, parents go as far astray in dealing with the child's intellectual, as with its physical and moral development. Here too, then, some general but accurate knowledge of physiology, of psychology, in short, of Science, is supremely important.

4. We come next to "those activities which are involved in the maintenance of proper social and political relations,"—to the functions of the citizen. The need of knowledge to fit a man for these functions is not, as in the last case, utterly ignored, such a study as history bearing, nominally at any rate, upon political and social duties. But, as taught, it is valueless for purposes of guidance. It is a catalogue of names, dates, battles, plots, and intrigues; a mass of facts "from which no conclusions can be drawn—*unorganizable* facts; and therefore facts which can be of no service in establishing principles of conduct, which is the chief use of facts." To be of practical value, history should "help us to understand how a nation has grown and organized itself." It must become a descriptive sociology, and furnish materials for a comparative sociology. But in any case historical knowledge, to be really serviceable, requires a key. "And the key is to be found only in Science. Without an acquaintance with the general truths of biology and psychology, rational interpretation of social phenomena is impossible."

5. The last division of human life is that which includes its relaxations and pleasures, "the enjoyments of Nature, of Literature, and of the Fine Arts." Here again, however surprising the statement may appear, the knowledge which is most requisite is that of Science. It underlies all the arts. The sculptor must know something of anatomy; the painter will blunder whose method is not based on science; the musician and the poet, even, cannot reach perfection without it. "Only when Genius is married to Science can the highest results be produced." In a very beautiful passage, too long for quotation, Mr. Spencer next reminds us that Science is itself poetic, "and opens up realms of poetry, where to the unscientific all is a blank."

Having thus far considered the value of different kinds of knowledge for purposes of *guidance*, he next proceeds to estimate them as they fulfil the object of *discipline*; and finds that the study of language, so prominent in our school courses, is far inferior in this respect to that of Science. The latter gives the better training to the memory, and at the same time exercises the understanding; and it cultivates the judgment as no extent of linguistic acquirement could do. Science affords also the best moral discipline, developing a spirit of self-reliance, of perseverance, and of complete sincerity. Lastly, Mr. Spencer boldly declares "that the discipline of science is superior to that of our ordinary education, because of the *religious* culture that it gives," and no one can read the eloquent sentences by which he follows this assertion without concurring with them.

"Thus to the question with which we set out—what knowledge is of most worth?—the uniform reply is—Science. This is the verdict on all the counts. For direct self-preservation, or the maintenance of life and health, the all-important knowledge is—Science. For that indirect self-preservation which we call gaining a livelihood, the knowledge of greatest value is—Science. For the due discharge of parental functions, the proper guidance is to be found only in—Science. For that interpretation of national life, past and present, without which the citizen cannot rightly regulate his conduct, the indispensable key is—Science. Alike for the most perfect production and highest enjoyment of art in all its forms, the needful preparation is still—Science. And for purposes of discipline—intellectual, moral, religious—the most efficient study is, once more—Science. . . . And yet the knowledge which is of such transcendent value is that which, in our age of boasted education, receives

the least attention. While this which we call civilization could never have arisen had it not been for science; science forms scarcely an appreciable element in what men consider civilized training." Science is the Cinderella of knowledges; doing all the work, ministering to her gaudier sisters; and long kept unrecognized in the background. But "we are fast coming to the *denouement*, when the positions will be changed; and while these haughty sisters sink into merited neglect, Science, proclaimed as highest

alike in worth and beauty, will reign supreme."

In the subsequent chapters, on Intellectual, Moral, and Physical Education, Mr. Spencer works out the general principles of a method of training which he bases upon the demonstration of the truth that the best course is to follow and help forward that process of evolution in the individual, which is a repetition in brief of the evolution of the race. With these chapters we hope to deal in another paper.

NATURAL SCIENCE IN PUBLIC SCHOOLS.

BY AN AMATEUR BIOLOGIST.

OURSELVES the work of nature, and surrounded as we are by specimens of the Great Artificer's handicraft, it is somewhat strange that the claims of Natural Science, as a study for the young, have been so persistently fought against, and so successfully driven off the field, covered by public school programmes. From an every day practical point of view, one would be almost forced to the conclusion that the study of common natural objects ought first to occupy the attention of a child. The fly on the window-pane, the "cricket on the hearth," the toad in the garden, "good dog, Pomp," Tabby, the cat, and many other creatures are quite familiar by sight to every one—but the idea of devoting a little bit of school-time to a talk about such things seems to most people the height of absurdity. The examination of a mullein, or a burr, a bat's wing, or a duck's foot, would be regarded in much the same way; and a perfect

feeling of unanimity seems to prevail that although some knowledge of the human body is a very good thing, it is a doctor's business—not the teacher's.

It is quite true that until somewhat recently, books on natural science were far, indeed, from presenting the student with so many attractions as they now do. Much of what might otherwise prove interesting, was disguised by technicalities, and big-sounding dictionary words; and whilst to a certain extent the use of such terms in scientific treatises must always exist, their repulsiveness will wholly disappear, as the learner acquires, bit by bit, a knowledge of their meaning and application.

But books on natural science in a public school are quite out-of-place. The teacher may consult these at home, but in school he must do all the talking himself, except in so far as he can "draw out" his interested pupils. Probably it is just here that

the true reason lies in the teacher's being afraid to take hold of a subject, such as the one now advocated. They either acknowledge that they don't see anything to talk about in a handful of earth, a piece of stone, a common bird, a "bumble-bee," or a "polly-wog," or else they confess they "care for none of these things," or, caring for them, don't know what to say. Now, it can readily be shown that each of these objections is groundless. Let any number of persons—they need not be teachers—have an opportunity of visiting a menagerie, a museum, or a botanic garden, how many will pass by on the other side? Perhaps, not one. Should any do so, however, or should any feel that with the opportunity, he would do so, then it is not going too far to say, that, accepting the position of teacher that person has sadly mistaken his calling.

That curiosity which prompts us all to see "sights," is one of the principal motives actuating the scientist in his investigations. A close examination of the commonest object reveals to him beauties undreamed of by the cursory observer, and it is just because we are all too apt to be mere cursory observers that the study of natural science is advocated in public schools. It is really astonishing how many of us "have eyes and see not," and, it might also be added, "ears and hear not." Let any teacher whom I now address, ask himself, and then put to his pupils, the following questions: Do swallows usually reach this neighborhood before or after the Queen's birthday? Do horses and cows rise from the ground in the same manner—if they differ, how? Is there any difference between the eyes of these animals? How many toes has a dog on each foot? Has it the same number before and behind? Have all dogs the same number? What is peculiar about the action of a goose when entering a

door—say a barn door? How many legs has a mosquito?

These questions are remarkable for their simplicity only, and easily as the answers may be obtained, it will be something unusual if many teachers or pupils can be found who will give them readily, and with certainty. Of course, it may be said that the ability to answer frivolous queries like these, is of very little value. This is quite true, in a sense, but will any one deny that he who has noticed such things so closely as to be able to reply correctly at once, is gifted with a more exact knowledge of things in general than he who cannot? Is it not such as he who makes the best artist, artizan, or farmer—the most successful lawyer, physician, or teacher? This is our answer to the irrepressible "What good?" which hangs forever on the lips of those who can see no utility in anything unproductive of dollars and cents, that the cultivation of the observing faculties, arising from the study of the natural sciences, is calculated to produce a superior class, whether of mechanics, agriculturists, or professionals, to those who have imbibed the sum-total of their information at second-hand, from text-books and the mouths of preceptors.

President White, of Cornell University, says:—"A most important means of discipline and culture is to be found in the natural sciences. On these much industrial and general progress depends. They discipline the power of observation, and reasoning upon observation. They give, too, a culture to the sense of beauty in form and fitness of adaptation."

To most teachers, perhaps, the chief inducement to teach natural science will present itself in the fact that it enables many pupils to pursue other studies with greater facility. For example, the boy or girl who has been trained to note carefully the

peculiarities of a pebble, a bug, or a bird, will all the more readily retain the impression of what a word looks like, and thus improve in spelling. The scholar who has been taught to examine critically the characteristics of foliage or efflorescence in a plant will remember more vividly the features of a map—will be better able to draw an outline of any object he has ever seen, and to understand more intelligently those *viva voce* explanations that every teacher must frequently make use of.

It is scarcely necessary to say, that in teaching natural science, it is indispensably requisite either to have the objects that form the subject of the lesson in the class, or to have previously directed the attention of the pupils to where they may be seen. As already indicated, there will be no want of interest on the part of the scholars, even should the lessons fall considerably short of the teacher's ideal in regard to what they ought to be, or what they might be. For a month or two, it may be well to take up any common specimen, whether furnished by a pupil, or provided by the teacher himself, until an interest in the study has been aroused on the part of all concerned. After a while, some more methodical arrangement may be adopted. Something will depend on the locality of the school, no doubt; still, a good deal may be done in most of the branches of natural science, in connection with almost every school in Canada. A vote of the pupils may decide as to whether the subject for three months shall be stones, insects, fish, birds, quadrupeds, or plants. Each scholar might provide himself with a small book in which to make a memorandum of

names, questions, observations, remarks, and other notes, for the season. The specimens should next be procured. It will be found not unfrequently that many of those are worthy of preservation, thus forming an interesting little stock of material to fall back upon for reference or casual remark in the future. In places favorably situated, a few cases may be provided to protect specimens, whilst some might even go the length of organizing a small museum. The effect on the school would shortly be apparent, not only in the aptitude with which questions are answered, but in the ingenuity with which queries are propounded. The programme affords ample room for the introduction of this study in the shape of object-lessons, and it will be well worth the while of teachers to give it a trial for a few months, if only to the extent of one hour per week, and this is fully as much time as even Tyndall and Huxley have demanded for it as a study in the schools of England.

In the preparation of a paper such as this, it would be easy to adduce prolific testimony in proof of what has been stated, and to add many other reasons for the pursuit of natural science study; but the aim has been, not so much to write an exhaustive essay, as simply to lay before the public school teachers of this country, in a plain, conversational style, some of the advantages likely to arise from even the humblest efforts to induce our young and ardent countrymen to scan, at least, a few pages in the great book of nature, and to grow up men of exact and varied information, disciplined by observation, wedded to truth, and lovers of the true and beautiful.

OUR SCHOOL MANUALS.

BY THE EDITOR.

THE function of school books in the economy of education is admittedly an important one, the more so as educational science advances, and the teacher grasps an exalted notion of his work. In Canada, the two causes which, in past years, most hindered the introduction of good text-books into our schools, were the too-rigid insisting upon uniformity, and the premature desire that they should be of native authorship. Conservatism in the one case, and an excess of patriotism in the other, lost to education many valuable years' work. How mischievous was the system there is little means of knowing: how great has been the change, the present extensive school curriculum will indicate. To be just, however, there was more than a change of system that brought about the extension of the list of authorized text-books in use in the Province. The impetus given to the production of improved manuals by recent educational legislation in England, had much to do with the enlargement of the list, as it set in motion the activities of publishers to adapt their text-books to the requirements of the 'new code,' and increased the number of works available for introduction. Fortunately, too, the influence of this new publishing enterprise was contemporary with the reorganizing movement of the latter days of our own Council of Public Instruction, and the departmental régime which succeeded it. The result was the increased number, and

the improved character, of our school text-books. That the common movement may continue which brought about so desirable a result, must be a matter of earnest concern to all well-wishers of our educational system, though care must be taken that each movement shall keep to its proper sphere. But in few matters is there greater danger of the introduction of improper influences and undue pressure than in that of the submitting and approving of the text-books for school use. One distinctive motive should, by publishers and advisory committee alike, be kept in view, viz.: that no personal considerations should affect the act of approval, or interfere with the singleness of aim with which the task of selection is undertaken. Imperatively, the examining committee, at any rate, should be inaccessible to outside influence, and be rigorously impartial in its work. Trade may descend to jockeying: officialism, never! The Minister of Education, of course, should still further be aloof from the intrigues of trade, and from all influences, religious, political, and social, that would embarrass his actions or prejudice his mind. Still, there is necessity for an active sympathy between, and a hearty co-operation among, the makers of books, and those called upon to adjudicate upon their merits. It is incumbent upon each that they should appreciate and sustain a high standard of intelligent merit in their construction, and respect the considera-

tions which should have paramount weight in the difficult task of appraising their value and of making proper choice of them. A due regard for these considerations is the first step towards securing efficient school manuals.

Nothing is more important, moreover, than that the machinery of the Advisory Committee should have no interest in the determining voice of its decisions. Under the old régime, the unwisdom of impeding the free exercise of the judicial function in permitting officers of the department to write school books, was made clearly manifest. At the present time there is some danger of our forgetting the lessons of the past in this respect, though, on the surface, no serious overt act has been committed. The breach of propriety involved in the connection of authorship of text-books prescribed for use with the inspection of schools using, or not using them, is apparent to any one who reflects for a moment upon the matter; and the gain that is had by the adoption of works produced by any of the learned Inspectors of the Department is more than qualified by the effect upon the profession which such an infringement of the code of propriety produces. That other, and more positive evils come of permitting this unseemly engagement in dual occupations, one can scarcely doubt. Of course, it may seem hard that those who have the ability and the aptitude to produce good school manuals should not be free to do so; but while employed in other specific duties, and in those which are apt to conflict, even remotely, with their official work, self-repression should not be considered too obligatory. When the lawyer is elevated to the bench, he is expected to concern himself with judicial work, and not with that of the pleader. His duties are to administer the laws: not to write treatises upon them.

The truth is that in this matter there should be no semblance of anything that would interfere with the rigorously impartial discharge of the duties of Inspectorship; and no entangling or embarrassing interest should be allowed to interpose itself in the due exercise, on the part of both inspector and teacher, of the responsible legitimate work of either officer. The more independent these respective functionaries can be, the one of the other, the better,—always, of course, subject, but only so, to the wise and deliberate control of the chief executive of the department. In the system on which the school grants are made, we have, in the “payment by results,” quite enough temptation to truculence, and more interference than is desirable with the independence of the teacher. The most valuable quality in those engaged in the profession, and one which most wants continuous exhibition, is moral fibre, and anything that tends to repress its growth and expression, and to enfeeble the teacher in an already notoriously weak spot, should be repressed and removed. In the matter of the pocket, the best of mankind are weak; but to temptations that already environ the teacher, there is little sense in adding those that should not connect themselves with the machinery of the department. Let the profession, therefore, be free from the motive to use, or refrain from using, a text-book in which any Inspector has even remotely an interest. Those who fill the arduous office of Inspector, also, will best consult their own interests, while conserving that dignity and self-respect most essential to their efficiency and success, by abstaining from even the most distant commercial connection with the implements of education, and from any alliances that might derogate from the high status to which their official position assigns them.

To follow this rule, as we have said, it may deprive education of the services, as authors, of those most competent to prepare school text-books. But this is unavoidable; though it may be a question how far even the able and practical teacher is capable of preparing so seemingly slight a bit of professional work as a school manual. Easy as the task may seem, it requires vastly more than scholarship and practical acquaintance with the *technique* of the schoolmaster. Educational book-making, even more than craftsmanship in general literature, requires art, skill, and an apprenticeship in letters, rarely met with in uncultivated fields and in inexperienced hands. Hence, while there may be a high degree of scholarship, and a lengthened experience in teaching, the result of experiments in school book-making, for lack of literary fitness and aptitude for the work, may not be gratifying. Other circumstances, also, interpose to lessen the chances of success in native school book manufacture, and these connect themselves with the mechanical production of the work, which, in the mass of instances, requires a larger investment of capital to produce, in any high degree of artistic and mechanical excellence, than the limited field of sale adequately remunerates. At the same time, it is conceded that all worthy attempts should be made to give to our native literature such works as would be useful to our schools, and creditable to Canadian letters and scholarship. In some departments of tuition, however, it is essential that our manuals should be written, or compiled, from a Canadian point of view. We should, of course, have primers of Canadian history, and our reading books should enshrine such models of literary or oratorical composition as Canadian writers and publicists can be said, after severe critical appraisement, to have given

us. Recent years have added much to the native literature of Canada, which it would be well to bring to the notice of our youth; and it would be a substantial stimulant of Canadian patriotism and citizenship could such material be garnered into our reading books and histories. How rich, too, in a national and historic literature, is the early French régime in Canada, with which few of our youth ever make acquaintance in our schools; and what could better fire the spirit and energize the life of Canadian youth than to read the stirring incidents of early missionary and pioneering adventure in the country with which the period is saturated. Of course such literature wants careful selecting, and requires the exercise of a broad catholicity of opinion and taste. But the risk would not be greater than the reading, in our English histories, of disquisitions upon the acts of religious bigotry and tyranny in the old world. Indeed the advantage would be greatly in favour of our Canadian annals, for they abound in material recording acts of heroism and of Christ-like humanity, which should make the heart of every protestant youth warm to his co-religionist and countryman of to-day, despite all he may have imbibed of distrust for the religious zealots who have darkened for him the page of English history by their cruelties and wrong.

But there are other advantages to be gained in a national point of view, in importing into our reading books, and into the lessons from our histories, a larger element of specially Canadian interest. If as a people, we are ever to grow out of our colonial swaddling-clothes, and to fit ourselves some day for assuming any higher rôle in national existence into which the wheel of time and destiny may carry us, it is not too soon to imbue our youth with that *amor patriæ* which familiarity with the history and

traditions of the past, and the expression of intelligent aspirations for the future, will best inculcate. Nor need we be too timid in approaching this matter, or hesitate to make it the subject of a timely lesson in native history, for an enlightened patriotism can only exist with a wise and solicitous regard for what the future has in store for us. Primarily, however, let our youth be intelligently informed as to the past, and of the stimulants that lie back in the records of our career, to new endeavour and to greater achievement in the national path. No more important factor can be relied upon in this work than an eloquent text-book on Canadian history, leavened with an intelligent patriotism, and inspired by elevated national instincts. A chapter of one of Parkman's histories, subdued with a page or two of less brilliant narrative, or with a lesson on the constitutional growth of the country, would provide the course to hand; or, if we might not be mistaken as referring to a party-shibboleth, instead of to material for patriotic inspiration, we might suggest Mr. Foster's brochure, "Canada First," as an admirable historical text-book for our schools. To speak of any of Mr. Goldwin Smith's essays on the destiny of Canada, eloquent and thoughtful as they ever are, would, doubtless, be to tread upon volcanic ground. That the arguments of the learned Professor, however, should be familiar to those who pretend to teach a truer wisdom, and a more desirable future for the country, we can only, in passing, emphatically urge. Little as we are, personally, in sympathy with their drift, we cannot too warmly denounce their being characterized as the utterances of disloyalty and unreason. They are not these, and only a prejudiced and illiberal mind can call them so.

But to pass on, our text-books in geography, too, must be native in

their origin,—not, of course, that they should, by giving undue space to our own territorial possessions, to the limitation of that devoted to the rest of the world, foster among our youth either the insular bumptiousness of Englishmen, or the aggravated national vanity of the American, but that, with a wise and cosmopolitan intelligence, they should justly appraise Canada's position and claims as a nation; be familiar with the sources of her wealth; and informed as to the features of her industries and trade. Of these industrial features of the country's commerce, our text-books in geography must largely take note, and the range is not a limited one if properly brought out, as Canada possesses such an area and resource of productive wealth as to rival countries of greater prominence, and of higher national status. So varied and interesting, too, are the physical features of this portion of the North American continent—of which no English or United States text-book could sufficiently take note—that we have additional motive for the production of native geographies, and for such detail, in the portion devoted to Canada, as would do justice to her vast territory and its remarkably diversified features. Hitherto, there have been two drawbacks, however, to the satisfactory study of Canadian geography in our schools, but which we trust soon to see removed. In so purposely discursive a paper as this, it may not be out of place here to allude to them. We refer to the very incidental and totally inadequate manner in which the subject of physical geography is dealt with in our schools, and the indifference of the Dominion and Provincial Governments with regard to cartography. That the teaching of geography, now-a-days, should be limited to lessons on the political divisions of the world, and to the enumeration of gulfs, capes,

lays, heights of mountains, lengths of rivers, etc., etc., which from time immemorial has prevailed, is to take a narrow view of the importance and range of geographical science. Surely it is a grave omission that physical geography has so indifferently distinctive a place assigned to it as a study on our school curriculum, and that no specific manual on the subject, beyond the scope of a primer, appears upon the list of our school text-books. The other matter of complaint—of indifference on the part of the General and Provincial Governments to the construction of comprehensive, authentic, and readily accessible maps of the country, is one that calls for immediate attention and remedy. Attached to the Crown Lands' Department, in the Provincial Government, and to the Department of the Interior, at Ottawa, is a large staff of draughtsmen and survey officers, and an extensive and costly machinery of surveying is maintained. But withal, it would be difficult for the public to get a decently useful and authentic map of the Dominion, or of the separate Provinces, upon which one could rely, as emanating from an official source, for either general use or for the construction of maps for Canadian school geographies. This hint may, perhaps, suffice for those responsible for the omission or neglect, and we may, ere long, see attention given to the matter which is of both national and educational importance.

We have but space, in the present article, to refer to one other class of school manuals—those on science subjects—which, happily, of recent years has had assigned to it that prominence among the implements of a liberal and practical education, which its importance deserves. The place assigned by the Minister of Education to the studies of which they treat, is a gratifying one to all

who desire to see the acquisition of useful studies keep pace with the advancement of intellectual culture. The time is brief, at best, in which Canadian youth can acquire even the elements of book instruction, and it is peculiarly fitting that those studies which must be pre-eminently useful to them, in their after practical career, should be those which pertain to an industrial life. Carlyle has put it that it is an open question when a man is reading a book, whether he is, or is not, doing rather better than nothing at all. And in the priceless years devoted to school work, we should be careful, as wise guardians of the young, that the studies which occupy the attention of those intended for the every-day routine of mechanical or industrial work, are those which will be of practical service in the pursuits in which they are to engage. In the new educational era that has dawned for the mechanic and the artizan, no machinery of our Canadian schools can be of more service to the country's industries or more helpful to the immature bone and sinew of the nation, than that which will provide the means of technical training and art instruction to the classes whose future is to be connected with either manual toil or skilled handicraft. Forsuch, the importance of associating physical science with primary education cannot be over-estimated, and the introduction, on the list of authorized school text-books, of the many admirable science primers which have recently been issued by the publishers, is at once a matter for congratulation and an augury of practical and useful results. The day is yet distant when Canada can afford to let æsthetics and dilettanteism take the place of the sterner studies which give to her youth the energy and skill which make for the material advancement of the country and the substantial success of her sons. In some respects,

the rugged school of the vagabond world is a better one for a boy, whose hands want training to earn for him his daily bread, than the public school stimulants of pseudo-refined shop-keeping and city-clerking life. Of course, the school is not intended to be a workshop in which a lad is to learn the vocation by which he is to live. But our educational system will fail of its legitimate work if, while applying the mental discipline of ordinary school studies, it fails to direct their aim and purpose towards those practical ends which the mass of school children in this country want placing before them. In contributing to this, no unimportant aid can be given by efficient, well-adapted, and attractive text-books. It is a calamity when books aim at a practical end and are but poorly adapted to their purpose. No greater obligation, then, rests upon authors and publishers of school books than to see that they shall be pre-eminently good. Short-comings in them are peculiarly mischievous. The captivating effect of literary skill in their construction should, also, be borne in mind. It is as important as the attractiveness to the eye of a bright, open, and inviting page. The pity is that so few are masters of the art of literary composition combined with simple and lucid narrative power. Let the would-be authors of our school text-books exercise the gift, if they have it, and in such works as Kingsley's "Town Geology," and Huxley's "Physiology," or "Physiography," they will find admirable models for their study. Superior, perhaps, to any of these, however,—and this is saying much,—is Clodd's Manual on "The

Childhood of the World"; and for style and matter, though not in the direction of a text-book, teachers will find exceeding profit in the perusal of Ascott Hope's "A Book about Dominies." To the vivid interest in concrete facts manifested by the pupil, nothing is more effective in retaining the attention, while impressing the lesson, than an engaging and attractive style, and too much importance cannot be paid to this. A word may be added, too, as to the mechanical excellence of our educational manuals. Hitherto, the native text-book has had a seemingly undivestible colonial look. Cheap paper, poor print, and worse binding, have been the features of their manufacture. We have now, of course, improved upon this, but there is still room for a greater advance. Particularly now, when illustrations have become so much a feature of our text-books, is there necessity for care, taste, and good material, in their mechanical and manual production. In the Educational exhibit, at the recent Paris Exposition, there was but one thing wanting to crown the achievement of Canada in the cause of education, viz.: native school books of the excellence and adaptedness which characterized the exhibit in educational apparatus and the mechanical equipments of the school. Literary successes, of course, are gained more slowly than material ones. But they may yet be ours, in addition to those already won, if professional culture and experience and literary taste and judgment are encouraged among us as matters of desirable Canadian possession.

CONTRIBUTORS' DEPARTMENT.

THE REPLY OF THE NINETEENTH CENTURY.*

Sir, I am growing old. It is true I have nearly a quarter of my life's span yet to run, and one may do a good deal in twenty-two years, especially when, as in my case, one can count on energy up to the last moment. Still, as you do not fail to remind me, I am old, and, like the beast in the fable, you, forsooth must throw up your heels at me. You admit that you owe me a sort of filial loyalty, or fealty, and, judging by your very pronounced views on the said virtue of loyalty, I should have hoped your mouth might have been "*chained to the faults*" of your mother age. Your expression is a peculiar one, Sir,—and I hope before I finish that I may succeed in "chaining" you to a good many other faults, for which you are more answerable than I am.

Your stock of loyalty, which we find deficient at the present moment, is no doubt all devoted to the "righteous cause" of the House of Stuart, of which you are so fond. I am sorry that the "crop-headed rascals" you complain of, and those very much "overrated" men, Hampden and Sydney, and still more the innate stupidity and perfidiousness of the Stuarts themselves, placed it out of my power to preserve even a Pretender of their blood to receive your congenial homage.

Although you quote Carlyle to the effect that my children are mostly fools, I can as-

sure you they are not such fools as to interfere between you and your sainted martyr to any appreciable extent. You may have him all to yourself, and after Milto., Macaulay and Carlyle polished him off, it will be some time before he will need another Eikonoklastes.

So I am disposed to "boast and bubble over" at my achievements in popular education? I ought to be ashamed of *my* previous neglect, eh? Upon my life, I thought my elder brothers and sisters, eighteen of them in number, were the parties chargeable with neglect! It is true I might have set about it sooner; but reflect, my candid friend, I had a hard battle to fight with prejudice and ignorance, with persons who objected to my teaching servants to read because it would make them discontented, and to my setting poor children to their copy books, because, forsooth, if they learnt to write, the crime of forgery would increase so greatly! Can it be barely possible, Sir, that some of your arguments on this head remind me forcibly of these early struggles of mine?

It appears that the "the dark ages" is a mis-nomer. "Education was the heritage of the Church and the poor." The pulpit eloquence of Europe in the middle ages has never been surpassed, for, as you tell us, the preachers were at once schoolmasters and priests. How shockingly the historians must have deceived us! I was under the impression that the services of the Church were conducted in a dead language, that the pulpit was a comparatively modern innovation, and that, if one solitary preacher arose, such as Savonarola, (and I know none other worthy of the name) the Church burnt him very speedily. Quite right, of course; why

* NOTE.—This contribution is published as a reply to three articles, entitled, "A Quarrel with the 19th Century," which recently appeared in the pages of a literary contemporary, "The Canadian Monthly," from the pen of Mr. Martin J. Griffin, of Halifax. Insertion is given to the paper not to encourage controversial writing, still less to give place to discussion in religious polemics, but as it deals with some historic facts in regard to education, and other kindred topics, of presumed interest to our readers.—ED. C.E.M.

didn't he stick to composing miracle plays, with a comic devil and some surprising feats in stage-carpentry which were all the share of the "heritage" in question that the poor were then thought fit to enjoy.

A Florentine of the 15th century, you tell us, knew more of the movements of the learned world than the average nineteenth century citizen of London or New York. I grant you he took a keen interest in the narrow circle of the learned in his own city, but, in the absence of anything corresponding to our daily press, how could his knowledge of the "learned world" at large be compared to ours. You go on to add that this typical Florentine of the 15th century "was livelier, more agreeable and refined, *as indeed he is at this day*, than even the wealthy commercial classes of other countries." The Florentine of the 15th century is, *at this day*, I should fancy, rather too dusty and decayed to compete with a modern Canadian in refinement or any other agreeable quality.

We must needs take it for Gospel that there were 30,000 students at Oxford in the 13th century. It is true that careful historical writers denounce this as a myth, but Huber states it and you endorse it, so let it pass. What a falling off we have to lament, to be sure! But stay, did or did not the Universities then, and even later, take in mere boys, fulfilling, in fact, the place of our modern grammar schools—and was not the teaching there, as well as under the sainted Abelard at Paris, very much of the how-many-angels-can-stand-on-the-point-of-a-pin sort of style? Perhaps my querulous critic admires the scholastic philosophy, if so, pray let him give it a niche beside the Stuarts. I am content to laugh at it with Rabelais and to turn away from it in the company of Verulam.

"Scholastic culture" in this pet 13th century "was widely diffused through the nation at large,"—with such excellent results that the highest nobility seldom signed their names, preferring to make a cross or use a seal, and that the unwonted power displayed in stumbling through a verse of the Psalter

ranked a man at once among the *litterati*, and enabled him to claim his benefit of clergy.

But my chief sin and shame is the divorce of religious and intellectual training. My critic announces the "truism" that "a good sound training in religious belief is an essential quality" (? element) "in all systems of education." If he would accept a word of advice from an antagonist, I would bid him beware, lest when he thinks that the enunciation of a truism will floor his opponent, a begging of the question does not lie hidden beneath. State a case thus. Plenty of good food is an essential element in the successful bringing up of a child, *therefore* no school should be allowed to teach a child unless it also looks after its diet. It has seemed to me that as tastes differ both in food and religion, and since what is one man's meat is another man's poison, we should do well to leave parents to their own discretion on these points and not to attempt to coerce people in things which everyone but those of my critic's way of thinking have agreed should be left free.

Having done with education, we come on again to legislation. I am told that I profess to hate class legislation and yet indulge in it. My critic has succeeded in fastening a charge of hypocrisy upon me by means of confounding two perfectly distinct things. The class legislation which aimed at dictating to each rank in life what it should wear and how many covers it should have on its table, I despise as childish and absurd. The class legislation which provides for the peculiar needs of each class, as Acts regulating railways, doctors and lawyers, has nothing in common with this, and there is nothing inconsistent in approving the one and condemning the other. Proper precautions against quacks and pettifoggers have nothing invidious about them. The class legislation which, in my critic's model 13th century, bade fair to lay the foundations of a system of caste and, as in the case of the benefit of clergy already referred to, tended to place whole privileged bodies *above* the law which was made in the instance for all alike, was both invidious, unpractical and unjust.

It seems that we are blindly struggling to get back to the days of the Tudors. This was rather an unlucky epoch for my critic to pitch upon. But even Homer nods sometimes, so we must forgive the critic who forgets that the agricultural laborer in the time of the Tudors filled the air with his cries of complaint against the conduct of the landowners who were throwing all their small farms into large sheepwalks and employing two or three herdsmen and a few occasional shearers where once a hundred farm laborers found steady employment all the year round. Clearly the agricultural laborer, clamoring to be "attached to the soil" does not wish to hark back to the *regime* of the Tudors. Nor does he (for we will not make too much of my critic's slip) aspire to return to that old condition of life, when the *adscriptus gleba* really was attached to the soil, but by the badge of servitude, holding his land by base and precarious tenures and struggling manfully to maintain a *status* to which my critic would basely desire his descendants return.

Trade, too, we are told is on the backward path. The old handicraftsman was the master of the workman of to-day. Here I will agree with my critic in part. But at what price was that superiority purchased? At the price of the endurance by the consumer of an odious monopoly of production by a few favored Guilds. It is true we can no longer build a Salisbury Cathedral, it is none the less true that our poor need not be housed like swine because of the expense of putting up decent homes for them.

It is a clause in the impeachment against me that "Common lands have been filched away." Sir, it was the disgrace of my immediate predecessor, the eighteenth century, that enclosure bills became law by the hundred at a time.

It is my boast that the tide has been turned in my days, and for ages to come the workingmen of England will tell their children of the brave work that was done when Epping Forest was saved for the Londoner, and Common Preservation Bills became the order of the day.

Emigration, my critic adds, is an invention

of those wretches, modern Liberals. The expectation of an extra dollar in a foreign land tempts the peasant to throw aside his allegiance and leave the old country. Does this weaken the stability of the throne as you would have us believe? Would a starving family in Ireland, who, while starving, also reduced the wages their nearly starving neighbors were earning, be a source of much stability? Or does my critic prefer the previous style of emigration, which was fed by two modes, viz.: religious persecution and kidnapping under the shallow pretext of indenting men as apprentices (in fact white slaves) to the planters of Virginia?

Room for literature! Will it be believed that my critic makes out of my fecundity and the barrenness of my predecessors a grave charge against me? Because Froude, Macaulay, Flume, and Green have all written from different standpoints, the student of history is to hold up his hands in despair and sigh for the good old days when there was nothing but Baker's Chronicle, or Rapin's History. I should have thought that to hear the version of so many partisans would have helped any man, with ordinary brains, to arrive at a fitting conclusion,—with a tolerable certainty, too, that no important fact would be omitted or garbled when such various interests were involved. Either brains or patience must be lacking, if a man prefers a single dogmatic teacher,—I leave the reader to make the application.

What knowledge of history, then, can we expect from this critic? However little we gave him credit for, we shall be surprised at the ignorance he displays when he tells us that history has branded such projects as the elevation of the Greeks and Slavs and the unification of Italy "with her hottest iron!" What? History has indeed told a tale with regard to Italy's unity, a tale, which, amongst all the wonderful changes of my life, has been the most startlingly providential; but that tale has branded, not Italy, but Italy's oppressors, with the red-hot brand of shame! The thundering voice from the Vatican, of which my critic speaks in his finishing paragraphs so complacently, may hurl anathemas

and defiance on Italy, once more free, once more united, but the God of hosts has spoken once and again on Italy's behalf, and those who have watched the course of events from the time when a handful of men under Garibaldi first struck a blow for Italy's freedom till the day when Rome herself, the Im-

perial City, opened her gates to her rightful king, will say in reproachful accents to Pope and to Priest, "How can you curse whom God has not cursed? how,—if you be God's vice-gerents,—can you refrain from blessing whom God has clearly blessed?"

Barrie.

F. R.

ARTS DEPARTMENT.

EXAMINATION PAPERS.

NOTE.—For the present month we publish the papers given at the Intermediate, Second-class, and Admission Examinations to High-Schools and Collegiate Institutes, for the current half-year. Teachers will, doubtless, find these more acceptable on the present occasion than any general contribution in this department.—MATH. ED. C.E.M.

ADMISSION.

ENGLISH GRAMMAR.

1. Parse—"So signal a victory, gained by a small force, is one of which every loyal British subject in America may well be proud."

2. Analyse—"Irritated at this false alarm, we determined to avenge ourselves by going and tormenting the Strokr."

3. Explain the meaning of "Subjunctive Mood," "Participle," "Abstract Noun," "Superlative Degree," "Relative Pronoun," and "Progressive Form."

4. Correct the following sentences, and give your reasons:—

(a) My head pains me very bad.

(b) I can not find out neither where the lesson begins nor where it ends.

(c) Will you lend me them books?

(d) Bread is more nutritious, but not so cheap, as potatoes.

(e) I started a week ago from last Saturday.

5. Write the feminine of *Sultan*, *Stag*, *Baker*; the plural of *Dwarf*, *Staff*, and *Glory*; the positive of *Less*, *More*, and *Far-*

ther; the past participle of *Go*, *Come*, and *Sink*; the possessive plural of *Boy*, *Lady*, *Mechanic*, *Man*, and *Jay*; the objective of *Which*, *He*, *That*, *They* and *You*.

6. How do you find—

(a) The *Number* of a Verb?

(b) The *Case* of a Relative Pronoun?

(c) The *Tense* of a Verb?

DICTATION.

As they had neither wives nor children, they generally lived together by twos, for mutual protection and assistance; when one died the survivor inherited his property, unless a will was found bequeathing it to some relative in Europe. Bolts, locks and all kinds of fastenings were prohibited among them, the maxim of "honour among thieves" being considered a more efficient safe-guard. Their dress consisted of a shirt dipped in the blood of an animal just slain, a leathern girdle, in which hung pistols and a short sabre; a hat with feathers, but without a rim, except a fragment in guise of a visor, to pull it on and off, and shoes of untanned hide, without stockings. Each man had a heavy musket and usually a pack of twenty or thirty dogs.—*Fourth Book of Reading Lessons, p. 145.*

ARITHMETIC.

1. (a) Define abstract number, composite number, common multiple of two or more numbers; and explain by an example the use of the numerator of a fraction.
- (b) Express in figures four hundred billions, four millions, forty thousand and four units.
2. A man has 5 tons 6 cwt. of flour; after selling 25 barrels of 196 lbs. each, how many sacks, holding 150 lbs., can be filled with the remainder?
3. How many rails in a straight fence 40 rods long, 5 rails high, each rail being 10 feet long?
4. If it cost \$57.60 to carpet a room 20 feet long, with carpet $2\frac{1}{2}$ feet wide, at \$1.20 per yard, find the width of the room.
5. Find the value of

$$5\frac{1}{2} \text{ of } \frac{2}{3} \text{ of } 2\frac{1}{7} - 1 \div (\frac{1}{8} + \frac{1}{2})$$

$$1 - \frac{3}{4} \text{ of } \left\{ \frac{1}{2} + \frac{1}{2} \text{ of } \frac{20}{\frac{1}{7} \text{ of } 1\frac{1}{20}} \right\}$$
6. A pint contains $34\frac{2}{3}$ cubic inches; how many gallons of water will fill a cistern 4 ft. 4 in. long, 2 ft. 8 in. wide and 6 ft. $1\frac{1}{2}$ in. deep?
7. If 12 men earn \$120 in 12 days, by working 10 hours a day, in how many days will 15 men earn \$150 by working 8 hours a day?
8. A and B have together 210 acres of land, and $\frac{3}{4}$ of A's share is equal to $\frac{1}{7}$ of B's share. B paid \$1,470 for his land; for how much must he sell it to gain \$20 per acre?

GEOGRAPHY.

1. Define Longitude, Physical Geography, Zone, Tropic, Ecliptic, Orbit of the Earth.
2. Name the States of the American Union that border (i.) on Lake Michigan, (ii.) on the Gulf of Mexico, (iii.) on the west bank of the Mississippi River.
3. Name the Provinces which form the Dominion of Canada, with the capital and chief exports of each.

4. Name the principal islands in the Baltic and Mediterranean Seas and the countries to which they belong.
5. Name the principal rivers, the great mountain chains, and the largest cities between Siberia and the Indian Ocean.
6. State the position of the following:—
 Cities—Chicago, Detroit, Kingston, St. John.
 Rivers—Rhine, Mersey, Shannon, Ohio.
 Capes—Passaro, Wrath, Bon, Lopatka.
 Straits—Sunda, Bass, Cooks, Juan de Fuca.
 Islands—Philippine, Kurile, St. Helena, Santa Cruz.

ENGLISH HISTORY.

1. Who were the Saxons? When did they invade Britain, and what changes did they effect in it?
2. What English kings endeavoured to conquer France, and what was their success?
3. Who was Queen Elizabeth? Mention the principal events of her reign.
4. About what time did King James I. live? Show how Queen Victoria is descended from him.
5. What was the Reform Bill? When was it passed, and why was its passing a very important event?
6. What are the principal differences between the English Government and that of the United States?

COMPOSITION.

1. Write a short letter inviting a friend to spend the Christmas holidays with you.
2. The following sentence has two meanings. Write two sentences, each of which shall clearly express one of them.—“The Spaniards held them in such terror that they usually surrendered on coming to close quarters.”
3. Combine the following statements so as to make not more than two sentences:—
 It was noon.
 I went to a place.
 There something had been arranged.
 This had been arranged.

I should hold a council with the chiefs of all the tribes.

The chiefs of all the tribes had congregated to meet me.

This was according to appointment.

I arrived.

I found the chiefs of all the tribes there.

I found the chiefs of all the tribes all assembled.

The chiefs of all the tribes were standing in groups.

The chiefs of all the tribes were dressed in their finest costumes.

The chiefs of all the tribes had feathers waving on their heads.

The faces of some were painted.

The faces of some were half-painted.

The faces of some were quarter-painted. Some had one eye painted.

This was according to the customs of the different tribes.

4. Write a short composition on the Dog. In it you may tell the size, kinds and use of the dog, the shape of its different parts, and any story about a dog which you know.

FOURTH BOOK AND SPELLING.

1. "The intelligence of the unexpected landing of Wolfe above the town was first conveyed to the Marquis de Vaudreuil, the Governor-General, about day-break. By him it was communicated without delay to Montcalm. Nothing could exceed the astonishment of the latter at the intelligence. He refused at first to give credence to it, observing, 'It is only Mr. Wolfe, with a small party, come to burn a few houses, look about him, and return.' On being informed, however, that Wolfe was at that moment in possession of the Plains of Abraham—'Then,' said he, 'they have at last got to the weak side of this miserable garrison. Therefore, we must endeavour to crush them by our numbers, and to scalp them all before twelve o'clock. He issued immediate orders to break up the camp, and led a considerable portion of the army across the River St. Charles, in order to place them between the city and the English. Vaudreuil, on quitting the lines

at Beauport, gave orders to the rest of the troops to follow him. On his arrival at the Plains, however, he met the French army in full flight towards the bridge of boats, and learned that Montcalm had been dangerously wounded. In vain he attempted to rally them—the rout was general—and all hopes of retrieving the day, and of saving the honour of France, were abandoned."

Fourth Reader, p. 88.

- (i.) Explain the sense in which the words 'intelligence,' 'credence,' 'garrison,' 'endeavour,' 'issued,' 'lines,' 'rally,' 'rout,' 'abandoned,' are used in this passage.
- (ii.) What is meant by 'retrieving the day,' and what by 'saving the honour of France.'
- (iii.) *Landing of Wolfe above the town.* Name the town. By what route did Wolfe come to it? In what direction from it is a place above it?
- (iv.) What is the position of Beauport, the River St. Charles, and the Plains of Abraham with reference to this town? Across what was the bridge of boats?
- (v.) Which two of the following words are pronounced alike—'root,' 'rout,' 'route'?
- (vi.) How many years have gone by since the events here told happened? Give the rest of the story of Wolfe and Montcalm in your own words.

2. Give an account of the conquest of Mexico.

3. "What should we do but sing His Praise

That led us through the watery maze,
Where He the huge sea-monsters wracks,

That lift the deep upon their backs,
Unto an isle so long unknown,
And yet far kinder than our own?

He lands us on a grassy stage,
Safe from the storms and prelates' rage."

Song of the Emigrants in Bermuda—

Fourth Reader, p. 143.

- (i.) What is meant by "the watery maze," and why is it called a 'maze'?
- (ii.) What is meant by 'the deep'? Name the 'isle so long unknown,' and also 'our own.'
- (iii.) Who 'lands us on a grassy stage'? What is the meaning of 'stage' in this line? What are 'prelates'? Explain the reference in 'prelates' rage.'
- (iv.) Make a list of the dissyllables and one of the trisyllables in these lines.
- (v.) Give the other words pronounced the same as 'praise,' 'led,' 'maize,' 'sea,' 'their,' 'isle,' 'an,' 'so,' 'our,' and explain their meaning.

SECOND-CLASS TEACHERS AND INTERMEDIATE.

ENGLISH GRAMMAR.

1. Fallen cherub, to be weak is miserable
Doing or suffering; but of this be sure,
To do aught good never will be our
task,
But ever to do ill our sole delight,
As being the contrary to His high will
Whom we resist. If then His providence
Out of our evil seek to bring forth good,
Our labour must be to pervert that end,
And out of good still to find means of evil
Which oft-times may succeed so as perhaps
Shall grieve him, if I fail not, and disturb
His inmost counsels from their destined aim.

—*Paradise Lost, Bk. I., vv. 157-168.*

- (i.) Fully analyse the above passage.
- (ii.) Parse 'cherub,' 'doing,' 'ought,' 'good,' (in third line), 'ill,' 'as,' 'being,' 'then,' 'seek,' 'to find,' 'which,' 'shall grieve'.
- (iii.) Explain the derivation of 'sure,' 'ought,' 'delight,' 'counsels.'
- (iv.) What is the force of the s in 'oft-times' and in 'perhaps?'

(v.) Scan the first and the fifth line of the extract.

2. What means are there in English for expressing relation between nouns?

Give rules for the use of the apostrophe and s.

Parse the italicized words in
"It is from *Chaucer's Wife of Bath's Tale.*"
"The brightest jewel in the *Queen of England's* crown."

3. Distinguish between weak and strong verbs, and between regular and irregular verbs.

State, with examples, the rules for the sequence of tenses in English.

4. Distinguish the preposition from the conjunction.

Give an example of a conjunction compounded of a preposition and a noun.

5. Distinguish between derivation and composition in English. Give examples.

6. Distinguish between
The founder and president of the society;

and The founder and the president of the society.

He applied a rigorous scientific method;

and He applied a rigorously scientific method.

I alone can do it;
and I can do it alone.

7. Correct or justify the following sentences, giving your reasons in full in each case:—

"The Senate had decreed a separate triumph to both of them."

"The third and the fifth boys in the class are brothers."

"Divide these twelve apples between the four boys."

"Sixteen have been sentenced to suffer death, but two only were left for execution."

"Hanging and beheading is the punishment of treason."

8. Name the languages from which the chief components of English are derived.

Why is it that although the English language has derived many words from the Latin, it is not a Romance language?

DICTATION.

Battles, sieges, triumphs, the exploits of the chase were portrayed on the walls, sculptured in alabaster, and painted in gorgeous colors. Under each picture were engraved, in colors, filled up with bright copper, inscriptions describing the scenes represented. Above the sculptures were painted other events—the king, attended by his eunuchs and warriors, receiving his prisoners, entering into alliances with other monarchs, or performing some sacred duty. These representations were enclosed in colored borders of elaborate and elegant designs. The emblematic tree, winged bulls and monstrous animals, were conspicuous among the ornaments. At the upper end of the hall was the colossal figure of the king, in adoration before the supreme deity, or receiving from his eunuch the holy cup. He was attended by warriors bearing his arms, and by the priests or presiding divinities. His robes, and those of his followers, were adorned with groups of figures, animals, and flowers, all painted with brilliant colors. The stranger trod upon alabaster slabs, each bearing an inscription recording the titles, genealogy, and achievements of the great king. Several doorways, formed by gigantic winged lions or bulls, or by the figures of guardian deities, led into other apartments, which again opened into more distant halls. The ceilings above him were divided into square compartments, painted with flowers or with the figures of animals.

GEOGRAPHY.

1. Define Longitude, The Tropics, Oblate Spheroid, and Table Land.

2. Name the Zones, and state their widths in degrees.

3. Why is British Columbia so much warmer than the eastern coast of North America in the same latitude?

4. Sketch an outline map of Great Britain, and mark on it the position of eight of the chief towns, six rivers, three capes, and the groups of islands around it.

5. Name ten American "commercial centres" and their chief exports.

6. Name the chief rivers of Europe and the great cities on their banks.

7. Name the counties of Ontario west of York, and give their County Towns.

8. Where and what are Taranto, Cutch, Cyclades, Corea, Modena, Garda, Medina, Nice, Funen, Aspinwall, Gallinas, Aden, Tasmania, Tananarivo, and Queensland.

ENGLISH LITERATURE.

1. Write a brief synopsis of the contents of the first book of Paradise Lost.

2. Quote the passage referring to Leviathan, the description of Satan's spear, that of Mammon, and ten consecutive lines from any of the speeches of Satan.

3. And now his heart
Distends with pride, and hardening in his
strength

Glories; for never, since created man,
Met such embodied force, as named with these
Could merit more than that small infantry 575
Warred on by cranes; though all the giant
brood

Of Phlegra with th' heroic race were joined
That fought at Thebes and Ilium, on each
side

Mixed with auxiliar gods; and what resounds
In fable or romance of Uther's son, 580
Begirt with British and Armoric knights;
And all who since, baptized or infidel,
Jousted in Asramont, or Montalban,
Danasco, or Marocco, or Trebisond;
Or whom Biserta sent from Afric shore, 585
When Charlemain with all his peerage fell
By Fontarabia. Thus far these beyond
Compare of mortal prowess, yet observed
Their dread commander: he, above the rest
In shape and gesture proudly eminent, 590
Stood like a tower; his form had yet not lost
All her original brightness, nor appeared

Less than archangel ruined and th' excess
Of glory obscured: as when the sun new-
risen

Looks through the horizontal misty air, 595
Shorn of his beams, or from behind the moon,
In dim eclipse, disastrous twilight sheds
On half the nations, and with fear of change
Perplexes monarchs.

—*Book I., Ll. 571-599.*

(i.) Explain the meaning of 'created man,'
l. 573; 'named with these,' l. 574;
'Armoric,' l. 581; 'infidel,' l. 582;
'josted,' l. 583; 'compare of mortal
prowess,' l. 588; 'observed,' l. 588;
'disastrous,' l. 597.

(ii.) Explain the allusions in
"That small infantry
Warred on by cranes."
"The giant brood
Of Phlegra."
"Th' heroic race * *
That fought at Thebes and Ilium."
"When Charlemain with all his peer-
age fell
By Fontarabia."

(iii.) Write a short note on 'Uther's son.'

(iv.) Explain the grammatical construction
of 'mixed,' l. 579; and of
"Thus far these beyond
Compare of mortal prowess, yet ob-
served
Their dread commander."

(v.) How do you account for Milton using
'her' in l. 592?

(vi.) Scan l. 592.

(vii.) Mention the characteristic features of
Milton's poetry which are illustrated
by this quotation.

4. Give the substance of Milton's de-
fense of himself for using blank verse in this
poem.

5. Describe Milton's Satan, introducing
quotations where you can, and pointing out
the difference between it and other concep-
tions of the Arch-enemy's character.

6. Tell what you know about the three
poets who are usually classed with Milton as
the greatest epic poets of the world?

7. Point out everything you know in the
poem which would assist a person ignorant
of its authorship and date, in arriving at an
approximately correct conclusion as to the
time of its composition.

8. Give an account of the part taken by
Milton in public affairs.

ARITHMETIC.

1. Show that $\frac{1}{2}$ of 1 = $\frac{1}{4}$ of 4.

Simplify

$$\left\{ \frac{1}{2} \left(\frac{4\frac{7}{8} \text{ of } 6\frac{1}{2}}{7\frac{2}{3}} \right) - \frac{3\frac{3}{4} + 2\frac{1}{4}}{3\frac{3}{4} - 3\frac{1}{4}} \right\} \text{ of } \mathcal{L}182 \text{ } 7s. \text{ } 5d.$$

2. Prove the principle on which the rule
for finding the G.C.M. of two quantities de-
pends.

Find the G.C.M. of 169037 and 66429,
and the L.C.M. of 44, 48, 52, 96.

3. Define Ratio. Show how to find a
fourth proportional to three given numbers.

A grocer has 224 lbs. of a mixture of chic-
ory and coffee, the chicory being to the coffee
as 1 : 6; what amount of chicory must be
added to make the ratio 1 : 5?

4. A cistern (no lid) whose floor and walls
are an inch and a-half thick, is 5 ft. 3 in.
long, 3 ft. 7 in. wide, and 2 ft. $5\frac{1}{2}$ in. high,
in *external dimensions*; find the cost of paint-
ing the internal surface at 90 cents per square
yard.

5. Perform the following operations:—
.053407 \times .047126 to six places of decimals;
and 2.569141797 \div 7.5284 to five places of
decimals. (Ten marks to be allowed if done
by the *contracted* method; 5 marks for cor-
rect answer obtained in any other way.)

6. A note for \$730, drawn at 90 days and
bearing interest at 8% per annum, is discounted
by a broker .45 days before maturity; what
must the broker pay for the note in order to
realize 10% for his money? (No days' grace.)

7. A discount (true discount) of \$4 was
allowed on a bill of \$52 that had 8 months to
run, and at the same rate a discount of \$5
was allowed on a bill of \$75; how long had
the latter bill to run?

8. A grocer mixed coffee at 28 cents a pound with some of a better kind at 42 cents a pound, and by selling the mixture at 35 cents a pound he gained 15% on the former and 20% on the latter; in what proportion did he mix them?

9. A vat 4 ft. long, 3 ft. wide, and 9 in. deep, contains pulp for making paper; a percentage of the pulp is lost in drying, and a sheet of paper 2700 yards long, 2 ft. 6 in. wide, and .004 of an inch thick, is obtained; what per cent. of the pulp was lost in drying?

10. Find the area of a trapezoid whose parallel sides are 27.5 and 38.5 chains respectively, and whose other sides are 12.5 and 15.5 chains respectively.

HISTORY.

1. State the principal grievances that led to the revolt of the peasantry in the reign of Richard II.

2. Between what parties was the Treaty of Troyes concluded? How far were its terms fulfilled?

3. State what you know about the introduction of Printing into England.

4. Write brief explanatory notes on the Convention Parliament, the Toleration Act, the Peninsular War.

5. Give the date of the Treaty of Utrecht, and state what events led to it.

6. Where are the following places, and with what important historical transactions are they connected:—Lewes, Naseby, Plassey, Yorktown, Amiens?

7. When did the Chartist agitation take place, and what objects had the agitators in view?

8. Give an account of the causes of Lord Durham's mission to Canada in 1838? What were its results?

9. Tell briefly what you know about the battle of Cannæ.

10. Contrast the character and political aims of Marius with those of Sulla.

ALGEBRA.

1. Multiply

$$4x^2 - 7x + 2\frac{1}{2} \text{ by } 2x + \frac{1}{2}.$$

Prove that

$(\frac{1}{2}x - y)^2 - (x - \frac{1}{2}y)^2$ is exactly divisible by $x + y$.

2. Express in words the meaning of the formula

$$(x + a)(x + b) = x^2 + (a + b)x + ab.$$

Retaining the order of the terms, how will the right-hand member of this expression be affected by changing, in the left-hand member (1) the sign of b only, (2) the sign of a only, (3) the signs of both a and b ?

3. Simplify $(a + b)^4 + (a - b)^4 - 2(a^2 - b^2)^2$; and show that

$$(a + b + c)(b + c - a)(a + c - b)(a + b - c) = 4a^2b^2 \text{ when } a^2 + b^2 = c^2.$$

4. Prove that $\frac{a}{b} + \frac{c}{d} = \frac{ad}{bc}$.

Simplify

$$\left(\frac{a^2 + b^2}{2ab} + 1\right) \left(\frac{ab^2}{a^3 + b^3}\right) + \frac{4a(a + b)}{a^2 - ab + b^2}$$

5. I went from Toronto to Niagara, 35 miles, in the steamer "City of Toronto," and returned in the "Rothesay," making the round trip in 5 hours and 15 minutes; on another occasion I went in the "Rothesay" (whose speed on this occasion was 1 mile an hour less than usual), from Toronto to Lewiston, 42 miles, and returned in the "City of Toronto," making the round trip in 6 hours and 30 minutes; find the usual rates per hour which these steamers make.

6. Define a surd. What are similar surds? Simplify

$$\sqrt{12} + \sqrt{48} - 2\sqrt{3}; \sqrt{56} + \sqrt[3]{189};$$

$$(\sqrt{a} - \sqrt{b})(a + \sqrt{ab} + b); (x^2 + xy + y^2) \div (x + x^{\frac{1}{2}}y^{\frac{1}{2}} + y).$$

7. Solve

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

$$\frac{2}{x} - \frac{1}{y} = \frac{2}{a}$$

$$(2) x^2 + 5x = 5\sqrt{x^2 + 5x + 28} - 4.$$

8. Find three consecutive numbers whose product is 48 times the middle number.

9. If a and b are the roots of $ax^2 + bx + c = 0$ then $a(x-a)(x-b) = 0$.

Show that if $ax^2 + bx + c = 0$ has equal roots, one of them is given by the equation

$$(2a^2 - 2ab)x + ab - b^2 = 0.$$

10. If $\frac{m}{x} = \frac{n}{y}$ and $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$, prove

$$\text{that } \frac{m^2}{a^2} + \frac{n^2}{b^2} = \frac{m^2 + n^2}{x^2 + y^2}$$

FRENCH.

A.—SOUVESTRE: *Un philosophe sous les toits.*

Translate:

Que de peines pour amener à bien cette moisson! Combien de fois je le verrai braver pour elle, comme aujourd'hui, le froid ou le chaud, la bise ou le soleil! Mais aussi, aux jours les plus ardents de l'été, quand une poussière enflammée tourbillonnera dans nos rues, quand l'œil, ébloui, par l'éclat du plâtre, ne saura où se reposer, et que les tuiles échauffées nous brûleront de leurs rayonnements, le vieux soldat, assis sous sa tonnelle, n'apercevra autour de lui que verdure ou que fleurs, et respirera la brise rafraîchie par un ombrage parfumé. Ses soins assidus seront enfin récompensés.

Pour jour de la fleur, il faut semer la graine et cultiver le bourgeon.

1. Describe the *moisson* here spoken of.
2. What does the author say about the favourite objects of 'les vieux soldats'?
3. 'ne saura'—What peculiarity about this form? What other French verbs share it?
4. Give the principal parts of *verrai*, *assis*, *jouir*.
5. Change the construction of the last paragraph.

B.—DE BONNEHOSE: *Lazare Hoche.*

Translate:

Dans le mémoire qu'il rédigeait, et où il

rendait compte de ses opérations militaires sur le Rhin, Hoche descend au fond de sa conscience; il s'examine, il recherche en quoi il a pu être coupable, et les motifs de son arrestation: "Sauf le bon plaisir du Comité, écrivait-il, ma mémoire ne peut m'en fournir d'autres que mon refus de conférer avec les représentants quand j'ai cru qu'il était urgent d'agir. Est-ce là de l'insubordination? Quoi qu'il puisse m'en coûter, je resterai convaincu du mot d'Eugène: que tout général qui tient conseil de guerre n'a point envie d'entreprendre, En présence de l'occasion qu'il fallait saisir, je n'ai jamais craint d'engager ma responsabilité. J'ai toujours pensé que la plus terrible, c'est d'avoir à rendre compte un jour à l'Être suprême du sang humain qu'on aurait répandu sans nécessité et, je dois le dire, celle-là, mais celle-là seule m'a toujours fait trembler."

1. 'Opérations militaires sur le Rhin.'—Give a brief account of them.

2. What were the 'motifs' here spoken of?

3. Tell what you know of the 'Comité,' 'Eugène,' 'les représentants.'

4. Give the principal parts of *écrivait*, *craint*, *dois*, *convaincu*.

5. 'Quoi qu.' What difference between this and *quoique*?

C.—DE FIVAS: *Introduction.*

Translate:

Cependant, tandis qu'il formait ainsi son esprit par l'étude, il faut l'avouer, le troupeau n'en allait pas mieux. Les ermites, qui se moquaient des sciences, se plaignirent très-haut; l'un d'eux le menaça même de brûler tous ses livres, et joignit un geste offensant à cette menace. Valentin était né sensible, ardent; la nécessité avait plié son âme à la servitude, mais non aux insultes; il saisit une pelle à feu, met le frère à la porte de sa propre demeure, en fait autant aux autres, qui accourent au bruit, et s'enferme seul à double tour. L'ermitage est dans le plus grand tumulte. Le supérieur arrive, et demande ce que signifie tout ce qu'il voit. Valentin, placé tranquillement à la fenêtre, explique avec sincérité les torts du frère et les siens

propres, et n'ouvre la porte qu'après avoir fait accepter une capitulation.

1. Parse *saisit, placé, offensant*.
2. Explain the meaning and derivation of *ermitage, capitulation*.

D.—GRAMMAR AND COMPOSITION.

1. In what different ways do you translate *some* or *any* into French? Give examples.

2. What is the difference between *crû* and *cru*; *personne*, masc. and *personne* fem.; *qui*, and *que*; *que* and *quoi*?

3. Write the rules for the plural of French nouns in *-ou* and *-ail* with the exceptions.

4. Translate into French—Francis the first, the twenty-first of May, the emperor Charles V., the year one thousand eight hundred and seventy-eight.

5. Write the second person plural preterite indicative of *manger, acquérir, venir*; the third person singular future of *mouvoir, mourir, pouvoir*, the present and past participles of *moudre, lire, pleuvoir, rire*, and the imperative of *s'en aller* and *suivre*.

6. Correct these sentences, with reasons:

- (a) L'enfant doit obéir et respecter ses parents.
- (b) Plus que deux cent prisonnier, furent tués.
- (c) Il est redouté par tout le monde.

7. Translate into French:

- (a) That they might have fed the poor and cured the sick.
- (b) The house in which I live is my father's.
- (c) Alexander conquered a great part of Asia.
- (d) She is dying; do not speak to her.
- (e) "John and Mary had been living in this island twelve years, when, one day, as they were seated on the seashore, they saw several black men coming in a boat. At first Mary was afraid, and wanted to run away; but John held her back

(retenir) and said to her: Stay, sister; do you not know that God is here, and that He will hinder these men from hurting us?"

- (1) " 'You are dazzled!' he exclaimed joyfully, 'you were not expecting such a treasure! What do you say to (de) my bargain?'"
- " 'Pardon,' I replied, gravely; 'but I think you might have made it better.'"

NATURAL PHILOSOPHY.

1. Enunciate the parallelogram of forces. Deduce from it the triangle of forces.

A weight of 100 lbs. rests on a smooth plane inclined at 30° to the horizontal, and is prevented from slipping by a cord rising at 30° to the plane (60° to the horizontal). Find the tension on the cord and the pressure on the plane.

2. Show how to find the resultant in magnitude and position of two unequal parallel forces acting in opposite directions.

A uniform rigid plank, 15 ft. long, weighing 150 lbs., rests in a horizontal position on two benches, the one bench being two feet from one end of the plank, the other bench being three feet from the other end. Find the pressure on the benches.

3. If forces be represented by lines how must movements be represented? Why?

If 200 lbs. at one end of a plank balance it across a bench, 120 lbs. at the same end, when the bench is removed 2 feet, and 60 lbs. when it is removed 4 feet farther from that end; find the weight of the plank.

4. Enunciate the principle of virtual velocities.

A horse walks 150 feet, and by means of a rope and pulleys raises a weight of 1250 lbs. to a height of 18 feet. Were there neither friction of pulleys nor rigidity of cords, how many pounds would the horse have to pull?

5. Enunciate the laws of fluid pressure.

A cubical vessel, whose head inside is three inches long, is placed on a horizontal

table. Into its upper face is let, perpendicularly, a straight tube, which rises to a height of 27 inches above the face, the internal cross-section of the tube being one square inch. Vessel and tube are filled with water. Find the pressure on the bottom of the vessel, also the pressure on the table due to the water. (A cubic foot of water weighs 1000 ounces.)

6. Describe the barometer. Explain the principle of its action.

What height of atmosphere, weighing 1.2916 oz. to the cubic foot, would balance a 30-inch column in a mercury barometer, the specific gravity of mercury being 13.596, (water = 1.)

LATIN.

A.—VIRGIL, *Æneid*, B. II.

Translate into English :

Fando aliquod, si forte tuas pervenit ad aures

Belidæ nomen Palamedis, et incluta famâ Gloria, quem falsâ sub proditione Pælasgi Insontem, infando indicio, quia bella vetabat,

Demiserè neci, nunc cassum lumine lugent: Illi me comitem, et consanguinitate propinquum,

Pauper in arma pater primis huc misit ab annis.

Dum stabat regno incolumis, regumque vigebat

Consiliis, et nos aliquod nomenque decusque

Gessimus. Invidiâ postquam pellacis Ulixi (Haud ignota loquor) superis concessit ab oris,

Afflictus vitam in tenebris luctuque trahebam,

Et casum insontis mecum indignabar amici. Nec tacui demens, et me, fors si qua *tulisset*,

Si patrias unquam *remedissem* victor ad Argos,

Promisi ultorem, et verbis odia aspera movi. Hinc mihi prima mali labes; hinc semper

Ulixes

Criminibus terrere novis; hinc spargere voces

In vulgum ambiguas; et querere conscius arma.

Nec requirit enim, donec Calchante ministro

Sed quid ego hæc autem nequicquam ingrata revolvo?

Quilve moror? Si omnes uno ordine habetis Achivos.

Idque audire sat est, jamdudum sumite pœnas;

Hoc Ithacus velit, et magno *mercentur* Atridæ.

vv. 81-104.

1. Parse the italicized words, giving the principal parts.

2. Explain the case of *ultorem* (v. 96), the mood of *spargere* (v. 98), the form *qua* (v. 94) the case of *neci* (v. 85), the figure at *ministro*.

3. 'Idque audire sat est.' What does *ia* mean here?

4. Scan vv. 102 to 104.

5. State the exact position of Argos and Ithaca.

6. Belidæ—What peculiarity?

B.—VIRGIL, *Eclogues*.

Translate into English :

I.

MEL.—Et quæ tanta fuit Rómam tibi causa videndi?

TIT.—Libertas; quæ, sera, tamen respexit inertem,

Candidior postquam tondenti barba cadebat;

Respexit tamen, et longo post tempore venit,

Postquam nos Amaryllis habet, Galatea reliquit.

Namque, fatebor enim, dum me Galatea tenebat,

Nec spes libertatis erat, nec cura peculi.

Quamvis multa meis *exiret* victima septis, Pinguis et ingrata premeretur caseus urbi,

Non unquam gravis ære domum mihi dextra redibat.

I. 27-36.

Pergite, Pierides. Chromis et Mnasyllus in antru

Silenum pueri somno videre jacentem,
Inflatum hesternò venas, ut semper, Iacchus.
Serta procul, tantum capiti delapsa, jace-
bant ;

Et gravis *attrita* pendebat cantharus ansa.
Aggressi, nam sæpe senex spe carminis
ambo

Luserat, injiciunt ipsis ex vincula sertis.
Addit se sociam, timidisque supervenit

Ægle ;

Ægle, Naïadum pulcherrima ; jamque vi-
denti

Sanguineis frontem moris et tempora *pingit*.
Ille dolum ridens, "Quo vincula *nectitis*?"
inquit.

"Solvite me, pueri ; satis est potuisse
videri.

Carmina, quæ vultis, cognoscite ; carmina
vobis,

Huic aliud mercedis erit." Simul incipit
ipse.

VI. 13-26.

1. Parse the italicized words, giving the
principal parts.

2. Explain the case of *tendenti*, *domum* in
(1) ; *venas*, *mercedis* in (11).

3. *Ingrata*—What is the meaning?

4. Scan the first three lines of extract (11).

5. Give a summary of the contents of the
first Eclogue.

6. *Pierides*. What is the derivation?

C.—CÆSAR, *Bellum Britannicum*.

Translate into English :

Cassivelaunus, ut supra demonstravimus,
omni deposita spe contentionis, dimissis ampli-
oribus copiis, millibus circiter quatuor
essedariorum relictis, itinera nostra servabat,
paululumque ex via excedebat, locisque im-
peditis ac silvestribus sese occultabat, atque
iis regionibus, quibus nos iter facturos cogno-
verat, pecora atque homines ex agris in silvas
compellebat: et, quum equitatus noster, liberiùs
prædandi vastandique causa, se in agros effun-
deret, omnibus viis notis semitisque essedarios
ex silvis emittebat, et magno cum periculo
nostrorum equitum cum iis confligebat, atque
hoc metu latiùs vagari prohibebat. Relin-
quebatur, ut neque longiùs ab agmine legion-

um discedi Cæsar pateretur, et tantum in
agris vastandis incerdidisque faciendis hostibus
noceretur, quantum labore atque itinere le-
gionarii milites efficere poterant.

1. Conjugate *cognoverat*, *compellebat*, *effun-
deret*, *pateretur*.

2. Point out peculiarities of inflexion in
any of the nouns in the passage.

3. How was the Roman legion subdivided

4. In your reading of Cæsar what have
struck you as being his merits as an historian
and as a general? Refer to passages in illus-
tration of your answer.

D.—GRAMMAR AND COMPOSITION.

1. Give the rules for forming the compara-
tive and superlative of Latin adjectives, with
examples.

2. Decline together, in the singular and
plural, *senex quidam*, *perbreve opus*.

3. Give the principal tenses of *colligo*,
lucco, *tollo* and *torreo*.

4. Give the third person plural present
indicative of *moriòr*, *nolo*, *prodeo*, *refero*.

5. Give the rules for the case of nouns de-
noting (a) time and (b) space, with examples.

6. What classes of verbs govern the dative
case?

7. Give the rules for the quantity of final *a*.

8. Translate into Latin—(N.B.—The Latin
words are given below in proper order.)

Accordingly, he selects artisans from the
legions, and orders others to be summoned
from the mainland ; he writes to Labienus to
build as many ships as he could with those
legions which are with him. He himself,
although it was an affair of much toil and
labour, yet decides that the best (plan) was
for all the ships to be hauled up, and joined
with the camp in one fortification.

*Itaque ex legio faber deligo, et ex continens
alius arcesso jubeo : Labienus scribo ut quam
plurimum possum is legio qui sum apud is navis
instituo. Ipse, etsi res erat multus opera ac
labor, tamen commodus cum statuo omnis
navis subduco et cum castrum unus munio
conjungo.*

EUCLID.

1. Distinguish between *problem* and *theorem*, *axiom* and *postulate*, *direct* and *indirect* demonstration, *converse* and *contrary* propositions.

2. (a) What is the magnitude of each interior angle of a regular hexagon?

(b) If one side of a regular heptagon be produced, what is the magnitude of the exterior angle?

3. If from the ends of the side of a triangle there be drawn two straight lines to a point within the triangle; these shall be less than the other two sides of the triangle, but shall contain a greater angle.

4. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects it.

5. If a parallelogram and a triangle be upon the same base and between the same parallels, the parallelogram shall be double of the triangle.

6. To a given straight line to apply a parallelogram which shall be equal to a given triangle and have one of its angles equal to a given rectilineal angle.

7. If a straight line be divided into two equal and also into two unequal parts, the squares on the two unequal parts are together double of the square on half the line and of the square on the line between the points of section.

8. Construct an isosceles triangle equal in area to a given scalene triangle, and upon the same base.

9. If two straight lines, AB and CD, cut each other in the point F, and AD, DB, BC be joined, and the triangle CBD be equal to the triangle ABD, then shall the straight line drawn through F, parallel to BD and terminated by the lines CB and AD, be bisected in F.

10. Let BCD be a triangle, and F any point in BC. Construct a triangle equal in area to the given triangle, with FC for one of its sides and the angle at C for one of its angles.

11. The squares on two sides of a triangle are together equal to twice the square on half the remaining side and twice the square on the straight line drawn from the point of bisection to the opposite angle.

CHEMISTRY.

1. State the laws of combining proportions.

In one ounce of each of the following gases what weight of each element would there be:—Carbon monoxide, carbon dioxide, marsh gas ($C H_4$), olefiant gas ($C_2 H_4$), acetylene ($C_2 H_2$)?

What would be the volume of an ounce of carbon dioxide if, at the same temperature and pressure, 50 cubic inches of hydrogen weigh one grain?

2. Describe a method of preparing hydrogen. Write in symbols the reaction occurring.

By what experiments could the most important properties of hydrogen be exhibited?

3. By what experiments could air be shown to be a mechanical mixture of two gases, oxygen and nitrogen?

Give the names and symbols of the chief compounds of oxygen and nitrogen.

Write in symbols the reaction that occurs in the preparation of nitric acid from nitre, and calculate the weight of commercial nitric acid ($2HNO_3, 3H_2O$) that 337 oz. of nitre are capable of yielding. ($K=39.1$).

4. Name the allotropic forms of carbon.

In preparing carbon monoxide from oxalic acid a mixture of carbon monoxide and carbon dioxide is obtained; how can the carbon dioxide be removed?

5. Describe a method of preparing and collecting chlorine. Represent the reaction by an equation.

What are the principal properties of chlorine?

6. Describe the preparation of sulphuric acid.

How many gallons of oil of vitriol (specific

gravity 1.85) could be obtained from 111 lbs. of sulphur, a gallon of water weighing 10 lbs?

You are given two bottles, one containing sulphuric acid, the other containing nitric

acid, how could you determine which held the sulphuric acid?

7. Describe the structure of the flame of a candle.

Owing to pressure upon our columns, the Examination Papers in German, Composition, and Book keeping, are postponed until next month.—ED. C. E. M.

TEACHERS' ASSOCIATIONS.

CHRONICLE OF THE MONTH.

THE LINCOLN TEACHERS' ASSOCIATION held its usual half-yearly meeting at St. Catharines, on Friday and Saturday, the 25th and 26th of October. A considerable portion of the time was occupied by a Teachers' Institute conducted by Mr. James Hughes, Inspector of Public Schools for Toronto. He took for his first subject, "Mistakes in Teaching." Under this head he classed teaching while there is disorder, allowing whispering, especially in the higher classes, and a number of other common errors. He also gave some excellent hints on the Prevention of Truancy, on Object Lessons, on the Phonic Method of teaching Reading, and on Map Sketching.

On Friday evening Prof. Alex. Melville Bell gave a public reading in the City Hall. His selections were from Shakespeare, Dickens, Tennyson, Poe, Mrs. Stowe, Robert Browning, and others. This entertainment was highly appreciated, and was one of the most enjoyable features of the Convention.

On Saturday, Prof. Young, of Toronto, delivered an address to the teachers, on "Some application of Psychology to Education," which was listened to with the deepest interest. At the conclusion a resolution was passed to the following effect: "That this Convention, recognizing the special importance to teachers of a knowledge of Psychology, would hereby urge upon the Minister of Education the propriety of placing it on the list of professional subjects at the Normal Schools."—W. F. RITTENHOUSE, *Secretary*.

THE SOUTH WELLINGTON TEACHERS' ASSOCIATION held its half-yearly meeting in the Central School, Guelph, on Friday and Saturday, the 1st and 2nd of November.

Mr. G. A. Somerville read a paper on Object Lessons, closing his remarks with a

practical illustration of how such lesson may be conducted. An excellent paper on "How to Make Country Schools Attractive" was read by Miss Foote, of Bon Accord. Mr. David Boyle, of Elora, presented the Association with his report as delegate to the Provincial Convention in Toronto. The Public School Inspector for South Perth, Mr. Moran, addressed some practical remarks to the teachers on the subject of "Registers and Reports."

The remainder of Friday afternoon was taken up by Mr. G. W. Ross on "School Discipline."

On Saturday, Miss J. E. Smith read a carefully prepared paper on the "Incidentals of Teaching."

"Promotion Examinations in Public Schools" was treated by Mr. Robert Sander son, of Drayton, after which, Mr. Ross devoted the rest of the forenoon to an explanation of how reading should be taught to a class of beginners. The President, W. Tytler, B. A., of Guelph, occupied the chair.

THE NORTH YORK TEACHERS' ASSOCIATION, held a session at Newmarket recently, Mr. Fotheringham, President, in the chair. The subjects discussed were, Writing (Mr. Fotheringham), Philosophy (Mr. Haight), and Analysis (Mr. Jewitt). The interesting feature of the session was the lecture of Mr. Richard Lewis, of Toronto, on "The Harvest and the Labourers; or the Work and Destiny of the Educator," and Mr. Lewis's address on Reading and Elocution, illustrated by examples of recitation and expressive delivery. The meeting enthusiastically endorsed Mr. Lewis's comments on the importance of Elocution as a study in the schools, and gratefully acknowledged his delightful histrionic entertainment.

CONTEMPORARY LITERATURE.

CANADIAN EDUCATION AT PARIS.

WE have been favoured with an inspection of an elaborate illustrated report of the French Commission to the Centennial at Philadelphia in 1876, by the kindness of Dr. Hodgins, Deputy Minister of Education in Ontario.* It would obviously be impossible to do more than glance lightly at the contents of this elaborate and exhaustive work in the brief space at our disposal. The volume contains nearly seven hundred pages, and is divided into thirty chapters, each of which was compiled by one or other of the six Commissioners. M. Buisson, the Chairman, in addition to other special subjects, deals with the Free School system, the co-education of the sexes, religious and ethical instruction, and High Schools, and sums up the report in his *Resumé et Conclusions* at the end. Matters of organization are treated of by M. Laporte, in four admirable chapters, on administrative organization, including school authorities, and classification of schools, financial organization, and school organization proper—one chapter on city or town, and another on rural, establishments. Under this head are grouped the rules, plan of studies, conduct and manners, directions to teachers, the employment of school-hours, methods of instruction, and finally the discipline and incentives to emulation. M. Berger's subjects are school-houses and school furniture (fully illustrated), early education—infant schools, Kindergartens and primary schools, and instruction in grammar and drawing. In a later portion of the work the same gentleman deals, in two chapters, with normal schools and teachers' examina-

tion, with school inspection. Reading, writing, geography, history, arithmetic, mathematics, including book-keeping, algebra, geometry and geometrical drawing, physical science, song and music, and gymnastics, each forms the subject of an exhaustive chapter. Private schools and auxiliary institutions also come in for special attention.

The great pains taken by this Commission in the matter of statistics is exceedingly note-worthy, and the engravings, *fac-similes* of school lessons, and views of school-houses, are unexceptionable. In attempting an exposition of the American school system, Canada naturally appears somewhat dwarfed by the over-powering shadow of its great neighbour. Nevertheless, ample justice is done to the Dominion whenever opportunity offers. Two of the Commissioners visited Canada, and examined, for themselves, some of its towns and rural districts in Ontario, and the two chief cities of Quebec, "where they received a welcome of which they preserve the most grateful recollection." Our urban school-houses "of pressed brick, with stone pilasters, and slated roofs," are specially referred to, and the admirable work of Dr. Hodgins on "School Architecture," receives particular attention. "On the different matters relating to the choice of sites and materials, to the arrangement of the buildings, and to the best models of benches, blackboards, etc., one may find here the most complete instructions. We have nothing so complete in France to direct those who desire to establish in the country school-houses in all respects suitable. Mr. Hodgins is well acquainted with all that has been done in the United States, and he has selected with discretion all he has fallen in with, which appeared better or susceptible of improvement." M. Berger goes on to the subject of light,

* *Rapport sur l'Instruction Primaire a l'Exposition Universelle de Philadelphie en 1876. Presente au Ministre de l'Instruction Publique au nom de la Commission envoyee a Philadelphie, par F. BUISSON, President de la Commission. Paris: Imprimerie Nationale, 1878.*

ventilation, and warmth, to the normal school and its arrangements—all of them alluded to with words of praise. At p. 380, reference is made to the School of Practical Science; and at p. 392, there is a warm eulogy upon the merits of Canadian teaching and its elaborate appliances; and above all, Toronto, "a city justly celebrated for its scholastic institutions." The gymnastic apparatus exhibited are specially noted at p. 449; whilst at p. 503, there is an account of the visit of M. Buisson, in company with Mr. J. H. Smith, Inspector for the County of Wentworth, to the High School at Watetdown, where he was agreeably surprised to find in a building of modest appearance, "scholars of both sexes, of from fifteen to eighteen years, occupied in translating a page of the *Æneid!*" "Under this admirable system," adds the President, "the families of farmers have no cause for envying the inhabitants of the towns and cities."

It may be added, that much of the volume which refers to the schools of the Union is equally applicable to our own; indeed, Canadians flatter themselves that where they have copied, they have taken care to improve upon the examples, and that in many important respects, they have struck out an original path for themselves. The volume which we have noticed so briefly, is an extremely valuable one on many accounts. It may enable instructors to see themselves as others see them, who live under diverse conditions. There is much that is suggestive in the intelligent observations of the Commission, and there is abundant proof there of new life and intelligence in a regenerated France.

PRINCIPLES AND PRACTICE OF TEACHING.
By James Johonnot. New York: D. Appleton & Co.; Toronto: Willing and Williamson.

This, one of the latest additions to the literature of professional education, emanates from Ithaca, N. Y., and on the whole, is well worthy of perusal. The author's endeavour has been, as he says, to examine education from the standpoint of modern thought. His aim is an ambitious one, and having led his readers to expect so much, it is his own fault

if the result is somewhat disappointing. To state concisely the well settled principles of psychology is a task so extremely difficult and demanding such special qualification, that it is no matter of surprise if Mr. Johonnot has on the whole failed to make his sketch practically of much use to teachers. A little knowledge of metaphysics is a dangerous thing, and the teacher who will get his only knowledge of the subject from the book before us will not add much to his equipment, while he who is well read in metaphysics will probably skip the pages. Again "a connected view of the interdependence of the sciences" turns out to be a short chapter of twenty-two pages of which more than half consists of a meagre sketch of the life and work of Agassiz. The great educational reformers consist for Mr. Johonnot of Pestalozzi and Froebel. We cannot account for his utter silence with regard to Samuel Wilderspin the founder of systematized and sensible Infant Education. Surely no work of this kind should have omitted mention of the man who introduced gallery lessons, popularized object teaching, and above all, brought into the foreground of thought the subject of moral training in the playground and school. Wilderspin's works were translated into German, and the translator thanked by the Prussian Parliament, years before Froebel borrowed his ideas, and with real benevolence entered upon the same path, although the dreaminess and want of ruling common sense of the German educator have given a tinge of absurdity to the otherwise charming *Baby-Garden*.

Mr. Johonnot's chapter on Physical Culture is well written and valuable, as also is the following one on *Æsthetic Culture*.

We disagree with him in excluding the study of foreign languages from all but the academic course; and we rise from the perusal of his scheme of study with a conviction that in his effort to be practical he has only encouraged that superficiality which is the bane of American schools. It needs to be borne in mind, especially in this country where the active work of life begins so early, that gymnastics are the most important part of the education of children. The muscles of the mind as well as those of the body must be

strengthened by scientific training; and the child who has been taught how to *learn* will acquire specific knowledge in the great school of the world. The more spontaneously knowledge is acquired in childhood, the better; and the attention of the true teacher will be directed in the first instance to developing the mental powers and strengthening the faculties of attention, observation, and memory, rather than filling the child's stomach with crude indigestible meals of hard-cornered, miscellaneous facts. There is a touch of pharisaism in Mr. Johonnot's avowed preference for an ignorant teacher who does not smoke over an intelligent teacher who does; but doubtless the ruling fashion in American religious society which has concentrated its repressive energies on whiskey and tobacco, and is before all vicariously virtuous in the persons of its ministers and teachers, is accountable for this. On the whole the intelligent teacher will find in Mr. Johonnot not by any means a guide to be blindly followed, but a pleasant and often a suggestive companion. We commend his book to their notice: it is well worth its very moderate price, and the time which will be occupied in its perusal.

HISTORY PRIMERS.—*Europe*, by E. Freeman. Toronto: James Campbell & Son.—*Greece*, by C. A. Fyffe. London: Macmillan & Co.—*Roman Antiquities*, by Prof. Wilkins. London: Macmillan & Co.—*Canada*, by J. F. Jeffers. Toronto: James Campbell & Son.—*Geography*, by Geo. Greve. London: Macmillan & Co.—*Classical Geography*, by H. F. Tozer. London: Macmillan & Co.

The series of Primers which are being produced under the able editorship of Mr. J. R. Green, the well-known author of the "History of the English People," deserves a very considerable amount of praise, and will, doubtless, receive a very considerable amount of patronage. Handy and compact in size (the first on the list, which is the largest, containing only 150 pages), well and clearly printed, and strongly put together in neat covers, they bid fair to be deservedly popular among both teachers and pupils. If their contents are not, in all cases, of equal merit, they at least keep up to a decidedly high aver-

age standard of excellence, and in some instances, as we shall presently see, attain a position unusual among merely elementary treatises.

To go over them in detail would be no light task. In the first work on our list, for instance, Mr. Freeman has, with commendable diligence, "boiled down" the history of Europe from the days of Aryan immigration to those of the Ashantee war, into a sort of essence, resembling ordinary history in much the same way as a spoonful of Leibig's extract of meat resembles a dish of vegetable soup. How, then, can any reviewer do justice to such a subject in as many lines as Freeman has pages, especially when five other authors all clamour for recognition within the same narrow space?

Although Mr. Freeman is a clever man and a great scholar, he, like others, occasionally "naps." At p. 63, speaking of the dual division both of Christians and Mahometans in the days of the Eastern and Western Empires, and the Ommiad and Abbasside Caliphates, he says that "each of the four powers was an enemy of the more distant power of the other religion, and a friend of the nearer one."

The very reverse is the fact. The Christians in the West of Europe naturally and inevitably fought a bitter fight against their immediate neighbours, the Moors of Grenada and of Africa, and were on comparatively friendly terms with the unobtrusive Caliphs of Bagdad. Mr. Freeman himself shows the true state of things on the same page, and it is matter of wonder that such an oversight should have escaped his editor's notice.

We cannot refrain from noticing the vast change that has come over the spelling of proper names since we were boys; for, — strange as it may seem, — even a reviewer was once a boy. C, which used to be a pretty hardly-worked letter, has quite a holiday now-a-days, and K, especially in Greek names, has come to the front with a vengeance. Our old friend King Pepin, is touched with a conjuror's wand, and lo! King Pippin usurps his place. There is, however, some lack of rule among the new lights of the spelling-world, for even Mr. Green cannot get all his authors to spell Dido's chief city

alike. With one it is *Karthago*, with another it is still *Carthage*. The saddest blow, however, is that our old friend Virgil has been re-named Vergil.

Mr. Freeman succeeded in cheating us by the title to his 13th chapter, "The re-union of Germany and Italy." We turned eagerly to the end of his book, where this heading occurs, to see if he was indulging in any reactionary prophecy as to the re-conquest of Italy by Austria. No! he speaks of the "joining together of the German and Italian nations" as an accomplished fact. We were for a moment nonplussed, until we gathered from the context that what Mr. Freeman meant by this very clumsy expression was the welding of the scattered German principalities into *one*, and the amalgamation of the divided Italian kingdoms into *another* nationality, and not by any means a fusing of those two nations into one, as his words imply.

Mr. Fyffe's *Greece* is a masterly condensation of that entrancingly interesting history, which, whether we study it in detail, or, as here, in outline, never fails to rouse our deepest feelings of admiration and of pity; admiration for the Greek of the past, regret for the Greek of the present. But we must pass on to Prof. Wilkins's extremely interesting little primer on *Roman Antiquities*. It is, we are persuaded, by studies such as those which he puts before us, rather than by cut-and-dried accounts of battles, conspiracies, murders, and kings, that boys are most easily interested in the events of the past. To tell a boy to be curious about the fate of such a Consul or such an Augustus, the sole object of whose existence seems to have been to inflict on the student two, or perhaps if very celebrated, three more dates to be got by heart, is a hopeless task. It may well be believed that most boys, lads that are of ordinary thickness of skull, and no particular force of imagination, utterly fail to realise that any particular Roman hero was actually a man who walked about this world as the schoolboy's big brother now does; but take that schoolboy, as Prof. Wilkins does, into the Forum, or into the steaming bathroom, or out on the Sabine hill-farms among the grey olive trees, or better still, jostling among

the crowd at the circus, or picking out a soft stone to sit on and watch a wild-beast fight from, and the *reality* of the past breaks in upon him at once. He will grasp the individuality of the old Roman, will understand that his life was made up of long days and years like our own, not a brief span such as one would gather from the lives devoted to his history in the ordinary text-book, and forthwith the lad wishes to know more about him. In this spirit how easy it is to lead him on, and with what interest will he trace out in his *Cæsar* or his *Horace* those habits and traits of character which he has learnt to comprehend and to appreciate.

From Rome to Canada is a long step. Mr. Jeffers's work does not seem to have had the benefit of Mr. Green's editorship, but we cannot say that any lack of care is shown on that account. Some faults there are, no doubt, as where (on p. 6), in the desire to point the antithesis between the America of 400 years ago and the America of to-day, the author states that the Indians were then its only inhabitants, and their wigwams formed its only cities. It may spoil the contrast between such a state of things and the present wealth of New York or Toronto; but all the same, we must remind Mr. Jeffers that the Aztecs had attained no mean height of civilization, and no small mastery over the arts and applied sciences when the Spaniard first set foot within their walled cities, and pillaged their magnificent temples and palaces. The book, of course, steers clear of all political remarks,—but in its anxiety to show perfect impartiality, omits to mention the present party-lines, or to show how they arose, or to which of the two great parties we owe measures of national importance. There is a curious phonetic table at the end of the last chapter, purporting to assist the student to pronounce the French names which occur in the history. Although well-intentioned, we would advise that the page should be carefully cut out before the book is put in pupil's hands. If the French master got hold of it, he might destroy the whole book when he found "Jacques Cartier" pronounced "Zhak-Cart-ya."

Mr. Grove's *Geography*, and Mr. Tozer's

companion-work on *Classical Geography*, can be dismissed with shorter comment. Both are carefully written;—the first is well illustrated with explanatory maps and diagrams, —the latter is, if anything, a little too de-

tailed for the elementary purpose for which it is intended.

We reserve till another time the review of the kindred series of Primers in Literature and Science.

EDITORIAL NOTES.

TOPICS OF THE TIME.

IN perusing the handsome volume, just issued from the press of Mr. Lovell, of Montreal, on the "History of Lord Dufferin's Administration in Canada," no feature of his Excellency's interest in the affairs of the Dominion is more noticeable than the eager and enthusiastic manner in which he manifests his solicitude for the progress of education in the country, and his sympathy with every department of its work. In the admirable commentary running through the book, upon the varied subjects which interested his Lordship, in his successive tours through Canada, again and again does the editor, Mr. Leggo, refer, and with as oft-recurring satisfaction, to the impetus given to education by Lord Dufferin's hearty recognition of its value as a factor in the development and elevation of our people. A scholar himself, and a man of the broadest and highest culture, his intense interest in the mental equipment of our youth, and his encouraging words to those engaged in the work of education, were the result of his own wide and generous appreciation of every form of human knowledge. Readily as he sought the occasion to belaud learning, and magnificently as he encouraged in others its pursuit, he yet never paid to it the mockery of a hollow compliment, or uttered a word in its behalf for mere effect. If, at any time, he indulged himself in the exhibition of his own accomplishments as a scholar and classicist, it was from no motive of pedantry, but rather from a desire to pay a marked tribute of respect to those who honoured him. In this, however, he but emphasized the effect of his own words on

behalf of a liberal education; and, by the grace and brilliancy of his utterance, manifested the advantage to be derived from a classical training. But the sincerity of his purpose to be of service to education, in any words he addressed to those interested in it, finds readiest evidence in the wise counsel he gave to the youth of both sexes wherever, in school or seminary, he came in contact with them. Nothing can exceed not only the felicity and tact of these addresses, but the admirable appropriateness of their varied homilies on life and manners. Many of these will be recalled with pleasure as illustrations of happy turns of speech, and the monitions of a courtly but shrewd and keen-sighted observer. Those specially referring to the qualities that refine the life, and stamp with the symbols of gentility the budding youth of the country, cannot be too frequently recurred to, or their hints too deeply impressed upon the mind. The addresses to the pupils of the Young Ladies' College, Brantford, McGill Normal School, Laval Normal School, and the Loretto Convent, Toronto, are particularly worthy of note in this respect, while those delivered to the students of the various Colleges and Universities visited by his Excellency, are equally notable for their wisdom and their impassioned appeals to the pursuit of an intellectual life. As Mr. Leggo remarks, "Lord Dufferin was never a formal visitor at any of our educational institutions," and the substantial stimulant of his generous medal-awards to promote proficiency in studies, indicates the personal interest he had in their work, and the practical means he took advantage of to further their success.

But however solicitous he was to encourage a high degree of proficiency in the pupil, and to incite to the attainment of a broad and generous scholarship, he never lost the opportunity to inspire our youth with the desire for that more subtle culture which elevates and refines the life, and gives an intensity of pleasure to its pursuits and enjoyments. This aim runs like a golden thread through all his speeches, and places a priceless value upon his words. To call into exercise, in the daily contact of the school, those finer instincts of our nature is a work much needed in our midst, and it should not belong to a rarer species of school-husbandry than the present race of Canadian educationists assiduously to elicit it, and permanently to give it expression.

THOSE who laud, and properly laud, the efficiency of the educational system of Canada must, we fear, learn to speak of the country they eulogize in a somewhat local sense, referring particularly to the Province of Ontario and to the Maritime Provinces. That the Province of Quebec, at any rate, should be excluded from a share in the compliment is, unhappily, but too apparent, if the state of Elementary English Education, in the country parts of that Province, is to be taken as a criterion of excellence. At the recent Paris Exposition, it was specially noticed by French Educationists that that portion of *la belle Canada* inhabited by the people of their own race and language, the Quebec Province, had little share in the honours won for the Dominion by the exhibit in the Canada Educational Court. But the shortcomings of the Province and its French-speaking inhabitants in failing to take part in representing Canada's Educational interests at the Exposition, are trifling in comparison with the apathy manifested at home in the Province, by their English-speaking compatriots, towards the cause of education. At the Annual Convention of Protestant Teachers of the Province, held recently at Bedford, in the Eastern Townships, the condition of affairs in connection with primary education was stated to be most deplorable. The ex-

planation of this is readily enough found in the fact that the salaries paid to the teachers are criminally inadequate to the providing of competent men to take charge of the schools. A further explaining cause is found in the statement, made upon undoubted authority, that not only are the salaries miserable pitances in themselves, but that the teachers—in most instances females—have to submit to the degradation of receiving their remuneration in the set-off form of "board," and this on the vile peripatetic principle. This pinched and starved recognition of education, we are told, extends over a large area of even the oldest and richest counties of the Eastern Townships, the salaries only ranging from \$7 to \$12 per month, and board,—the board being from house to house weekly! Who are really responsible for this blot upon Canadian civilization we cannot say, but the disclosure of such facts flush the face with shame for the greed or ignorance of the community that supinely permits such a state of things to exist. The disproportionate number of English-speaking children in the province, and scattered, as they are, over a wide area, of course, makes it difficult to organize efficient machinery of instruction for their wants, and our miserable sectarian prejudices unhappily stand in the way of co-operation with the French inhabitants to secure any good system of education. No circumstances, however, can well excuse the utter lack of appreciation of what ought to be the priceless services to the community of an experienced, cultured, and capable corps of teachers, with a recognized status corresponding to the dignity and importance of the high duties of their calling. It would, perhaps, be unjust, while we are ignorant of the whole facts, to attach blame in this matter to the Protestant Committee of the Council of Public Instruction of the Province, but they cannot be quite absolved from some share in the responsibility for so discreditable a state of things.

MR. MATTHEW ARNOLD has a paper in the November Number of the *Fortnightly Review*, entitled, *Provo Unum est Necessarium*, calling

for increased attention to the subject of middle-class education in England, and going into dithyrambs over the alleged superiority of intermediate education in France. It is rather too much the fashion to speak deprecatingly of the systems in vogue in one's own country, and unreasonably to bespatter with praise those that are of foreign growth. We are not sure but that Mr. Arnold makes this mistake, for, taking class for class, we incline to think that the British youth is as well catered for, in the myriad Grammar schools of England, as his French cousin is, in his numerous *Lycées* and *Colleges Communaux*. And as to their respective standards, particularly since the Private Grammar Schools of England have opened their doors to the Government Examiner, there is little cause we think, for extravagantly eulogizing the French system at the expense of the English. Mr. Arnold's opinions upon Education matters, however, claim the highest respect, and the paper deserves thoughtful perusal.

EDUCATIONAL MATTERS ABROAD.

In a practical era like the present, no branch of public education can be so important as that which has for its object the extension of natural knowledge, and the furtherance of the means of acquiring a technical education. In adding to the resources of our material civilization, no department of educational work will be more productive of substantial results; and it is to be hoped that in Canada a greater interest will be taken, than as yet has been the case, in such institutions as the Toronto School of Practical Science, and the other machinery of a practical education which exists in the country. City Industrial Schools and evening classes, for giving instruction in popular science, should be more heartily encouraged over the Dominion, so that Canada may still hold the high place which her general educational system has won for her. How keenly alive to the importance of practical studies in their educational systems the people of other nations are, the following brief synopsis of a lecture recently delivered in London by Sir Charles Reed, the present Chairman of the London

School Board, will indicate. The subject was "Technical Education as Illustrated by the Educational Department of the Paris Exhibition." Says the report, "Sir Charles took the different countries one by one, and gave a concise account of each national section, highly praising the system exemplified by Canada. Belgium, too, he praised for its attractiveness and instructiveness, the school-room shown by this country being indeed a model. Denmark has given proof of the value of instruction in home industries, and seems to have taken up the uninterrupted thread of Kindergarten teaching, so as to carry it into adult life. The education of the Danes has spread from Copenhagen into every small village of the country, and there are schools everywhere. Italy shows chiefly drawings, those from Milan, Turin, and Rome being, as might be expected, excellent. In this kingdom the Kindergarten system seems to have taken a firm hold. Japan's educational advance was spoken of by the lecturer as perfectly wonderful. There are seven grand school-districts arranged on a complete communal plan. The foreign-language schools have had a truly immense influence throughout the country, and it is a fact that every educated Japanese speaks English, generally with perfect accuracy. Russia displays evidence of surprising progress, her schools of design and women's workshops having become quite prevalent. Finland, for the first time, makes a very simple, homely exhibition, which gives proof of great work. In Norway, education is now almost universal, and the evidences at Paris are very striking. The school-house in the Swedish department is admirable, and the work of the Beehive Society, in employing young women, is excellently illustrated. The Swiss is a most modest and interesting display, the cantons being united and under the motto, 'All for one.' It is remarkable that more girls than boys are under education in Switzerland. Spain has made great advance, her schools of industry having multiplied of late. China has followed Japan to some extent, showing a scholarly refinement, but not such effective work. On Egypt a light seems to have broken, and schools are spreading on the banks of the Nile. Brazil owes much to Dom Pedro, who has turned to good account his observations at former exhibitions. Chili has made astonishing progress; and the work of boys and girls, in the Mexican section, is alike admirable. The Netherlands' exhibition is excellent, the artizan schools of Rotterdam and Amsterdam having wonderfully improved. This kingdom makes the best show of school-books. Hungary is ahead of Austria in education,

the Empire having, in fact, made no advance since the Vienna Exhibition. 'England,' said Sir Charles Reed, 'would make a great mistake if she thought herself at the head of the world in educational matters. We have set ourselves to amend the mistakes of past generations, but the success hitherto achieved is not brilliantly demonstrated, in competition with other countries, at the Paris Exhibition.'

THE wealthy Livery Companies of London, England, have begun to move in the work of founding institutes for the advancement of Technical Education in the Metropolis. At a meeting held recently at Mercer's Hall, the great London Guilds decided to endow a central Institute for the purpose of affording to the London apprentices facilities for instruction in the arts and mechanical sciences; and already about \$100,000 has been subscribed. Liverpool also is moving in the effort to found a college for higher education in the great commercial seaport of England; and already some progress has been made in making provision for a large and efficient teaching staff.

BRIEFS ON NEW BOOKS.

The Law and Official Regulations relating to Public School Trustees in Rural Sections, and to Public School Teachers (including decisions of the Superior Courts thereon), as prescribed for Second and Third Class Provincial and County Certificates of Qualification, by J. Geo. Hodgins, LL.D., Barrister-at-Law, Deputy Minister of Education. Toronto: Copp, Clark & Co. Revised edition, 1878. This useful work embodies the substance of lectures delivered to Normal School students, at Toronto, which the legal training and lengthened experience of school law matters enabled Dr. Hodgins to prepare for their use. They now form a manual of school law of great utility, and the revision has enabled the author still further to illustrate the official regulations in force by embodying an ample selection of the decisions of the Superior Courts, in cases of difficulty which have been decided by the Judiciary. An extensive index completes the great service Dr. Hodgins has rendered to teachers

and school authorities in the publication of the work.

Green's Graded Language Blanks. Green's Graded Grammar Blanks. Boston: Potter, Ainsworth & Co.; Toronto: James Campbell & Son.—These admirable copy-book blanks mark 'a new departure' in our systems of teaching writing. The conventional maxim or proverb which has so long done duty in the head lines of our copy-books is here displaced by a series of (1) Easy Lessons in Expressing Thought, (2) In Combining Thoughts, (3) In Developing Distinctions, and (4) In Distinguishing Forms—in written speech. Penmanship thus becomes not only an exercise in the art of making accurate and well-proportioned letters, but a useful lesson in the construction of a sentence, and a helpful aid to the spontaneous and natural expression of thought. To facilitate the acquirement of an easy and legible style of hand-writing with fluency and accuracy of expression in the language, is a laudable and desirable work, and we heartily commend the series as an intelligent and practical means in accomplishing this combined result. The Grammar Blanks consist of (1) Etymology, (2) Syntax, (3) Parsing, and (4) Analysis, and furnish a series of exercises in writing, with the advantages of a special drill in grammar. Every schoolmaster should see them.

Milton's Paradise Lost, Books I and II, with Notes, by John Seath, B.A., St. Catharines. (Toronto: Copp, Clark & Co.) *Goldsmith's The Traveller*, a Poem, with Notes, by Wm. Williams, B.A., Collingwood. (Toronto: Jas. Campbell & Son.) The publication of these text-books is a gratifying indication of the increased attention given to the study of English classics in Canadian schools. In no department of educational work was there more need of this attention than in the critical study of English literature. As an aid in acquiring ease and style in written composition, the analysis of the structure of these classics of the language cannot but prove of great value, while familiarity with such authors as Milton and

Goldsmith can hardly but be a pleasure and delight. The critical work, in both instances, is creditable to Canadian scholarship and industry.

Swinton's New Language Lessons: An Elementary Grammar and Composition. Toronto: James Campbell & Son.—As an introductory work on the construction of our mother tongue we have met with nothing superior to this book. It is not only easy and progressive in its plan, but, mechanically, the book is most attractive and inviting—a great matter with a generally repulsive subject. For use in elementary classes in grammar and composition we esteem it specially well-suited. It is not over-loaded. The definitions are brief and pointed, and the exercises excellently illustrate the rules. There has hitherto been no greater desideratum than a simple and rational text-book on English Grammar; and if the language is to be spoken and written correctly, and with intelligence as to its form and structure, we know of no manual that will better help pupil and teacher alike in mastering the difficulties that surround the study of the subject than the present improved edition of Swinton's Language Lessons, issued by the above firm.

Steel's Fourteen Weeks in Physics. New York: A. S. Barnes & Co.—The subject of Physics is in this work treated popularly, after the manner of Peck's Ganot. The teacher in search of matter to interest a class, will here find abundant and good material. The illustrations are a great aid to the text, and highly increase the attractions of the work.

LITERARY, SCIENTIFIC, AND ART JOTTINGS.

SCIENCE has oft-times its most earnest votaries in the humblest walks of life. Mr. Smiles has recently given us a memoir of an enthusiastic naturalist in Thomas Edwards, the shoemaker of Banff, a work which has gone into its fifteenth thousand in England, and earned for the subject of the biography a

pension of £50 from the English Civil List. Now we have from the same source, a life of Robert Dick, a baker of Thurso, an humble and unobtrusive geologist and botanist. Scotland has evidently determined that her race of Hugh Millers shall not yet die. It would be curious to trace how much these humble disciples of Science owe the inspiration of their work to the plodding industry and enthusiasm of the author of "The Old Red Sandstone," and "My Schools and Schoolmasters."

THERE is much entertaining and instructive reading in the serial volumes which the end of the year brings to hand. The new volume of "The Leisure Hour" (London: Religious Tract Society; Toronto: John Young,) has interesting papers, in addition to a vast variety of excellent reading matter, on the following subjects, viz., "Utopias; or Schemes of Social Improvement," a resumé of socialistic movements and theories, from More's Utopia down to Karl Marx and the *International*; a series of illustrated papers, on The Public Schools of England; "The Chemistry of the Heavenly Bodies"; and a group of essays on "Practical Social Science."

A COLLECTED volume of "Lectures on Education," delivered before the members of the College of Preceptors, London, in the year 1871, and published by order of the Council, has lately been issued. The title of their subjects will doubtless interest our readers: The Science and Art of Education; The Teaching of the English Language; of the Classics; of Arithmetic; of Physical Science; and of Chemistry. The volume is published at 3s. sterling.

THE fifth sessional address of the President (Mr. Serjeant Cox) of the Psychological Society of Great Britain has just been issued from the offices of the society, in pamphlet form. The subject for this year was "The Claims of Psychology to admission into the Circle of the Sciences."

THE Hibbert lectures delivered last spring by Prof. Max Muller in the Chapter House, Westminster Abbey, are announced for publication in an octavo volume of 400 pages. Their subject, it will be remembered, was

"The origin and growth of Religion, as illustrated by the religions of India."

A SERIES of Shilling Manuals, under the title of "Health Primers," are being issued by a London firm (Messrs. Hardwick and Bogue) embracing the subjects of Premature Death; Alcohol its Use and Abuse; Exercise and Training, The House and its Surroundings, etc. The same house announces, in similar popular form, manuals on The Sight and How to Preserve it; Science made Easy; and a volume entitled, Common Mind Troubles. As the title of the latter might be taken to mean either the troubles of a common mind, or mind troubles of a common kind, we transcribe the titles of some of its chapters, viz., Defects of Memory, Confusions of Thought, Hesitation and Errors in Speech, Low Spirits, Temper, and The Creatures of Circumstance.

MESSRS. Chatto and Windus, London, have just ready two interesting volumes of collected lectures and papers; the one by Prof. R. A. Proctor, on "Pleasant Days in Science," and the other by Dr. Andrew Wilson, on "Leisure Time Studies, chiefly Biological." They are for sale by Messrs. Hart and Rawlinson, Toronto.

THOSE who have been interested in Kiddell and Schem's useful "Cyclopædia of Education," and who are 'at home' in the French language, should know of the "*Dictionnaire de Pédagogie et d'Instruction primaire*," now being published by Messrs. Hachette, of Paris, under the editorship of M. Buisson, with the assistance of the leading educational functionaries of France. Part 22, (Camarades-Charbon), has recently been received in this country, containing an admirable summary of the Educational Systems of Canada rendered into French, from the pen of Dr. Hodgins, Deputy Minister of Education. The aptitude of the French people for Cyclopædic work has always been a notable fact, and the "Dictionary of Pedagogy" is a further illustration of their skill and industry in this respect.

THE Rev. Alfred J. Church, head master of King Edward's School, Retford, England,

has just issued a volume of "Stories from Virgil," with charming illustrations from Pinelli's designs, in the colors and style of Etruscan decoration. The author's previous volume, "Stories from Homer," with colored illustrations from Flaxman's designs, will be remembered as an attractive volume, mechanically, as well as a scholarly and effective rendering of Homer's verse, preserving the action and spirit of the poems with special success. For sale by Mr. A. Piddington, Toronto.

THE famous "Autocrat of the Breakfast-table," Dr. Oliver Wendell Holmes, has just prepared a biography of John Lothrop Motley, the Historian of the Netherlands, which is about to appear. A richly illustrated holiday edition of the Autocrat's latest "effusion in verse," "The School-Boy," a poem read recently at Andover, has just been brought out by Messrs. Houghton, Osgood & Co.

MR. WARWICK, Publisher, of Toronto, has in press a work from the pen of one of our best philological scholars, Mr. J. W. Connor, B.A., of Berlin, which promises to be of great practical use as a text-book in our schools. The subject is Etymological Exercises; and from the advanced sheets we have seen of a portion of the work, we should judge it to be an admirable aid to the critical study of the language.

WE have received from Messrs. Willing & Williamson, Toronto, their new Educational Catalogue, comprising new and standard text-books and works of reference in Classics, Languages and Literature, Mathematics, Arts and Science. It is a perfect cyclopædia on the bibliography of Education, and will be found of great service to the profession. From Messrs. Copp, Clark & Co., we have the annual issue for 1879, of the ever-useful "Canadian Almanac," replete with statistics and handy facts. The *Quarterly Magazine*, published by the Literary Society of the Hamilton Collegiate Institute, has also been received, and deserves notice, which we are compelled to defer to another issue. The Kingston Collegiate Institute *Herald* has also been courteously sent to us.