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THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL MAGAZINE.

NOVEMBER, 1886.

ANNUAL CONVOCATION OF UNIVERSITY COLLEGE.

PRESIDENT WILSON'S ADDRESS.

ONCE more it is our privilege at the Annual Convocation of University College to welcome this reunion of old classmates; and no less heartily to greet the fresh company of youthful aspirants who press forward to fill the gap left by those who now carry away with them well-won academic honours. It is with no less gratification that, at this important juncture in the history of the University and College, I am able to congratulate the friends of national education on the continued success of the Provincial College. The numerous band of matriculants admitted to-day—the largest number that has ever entered as undergraduates to pursue their studies here, and proceed to a degree,—affords to myself and my colleagues the best incentive to renewed zeal in the responsible duties entrusted to us.

It is impossible for any one to whom the future of our young country is of value to look otherwise than with the deepest interest on those who to-day

enter this arena as candidates for the priceless award of a liberal education. Among them we doubt not are those for whom the highest rewards are destined as the meed of honourable toil; and, as in past years, men have gone forth from this College who have filled high offices in the state, have been promoted to the chief rank among our judges, and entrusted with the most responsible duties in our colleges and schools: so now we look with brightest anticipation on those who may be destined to render still greater services to this province and country. For them the future is radiant with hope; and its realizations will in no slight degree depend on their turning to wise account the advantages now placed within their reach. And here I am tempted to allude to an old cry at present reiterated with more than usual zeal: that we are over-educating the people, and tempting the rising generation to forsake the desk, the forge and the plough for the

learned professions. There lies at the foundation of this the mischievous error which confounds culture with professional training. The aim of all true education is mental breadth, moral elevation, and such a mastery of the great truths that furnish the best antidote to sloth and ignorance as shall awaken the dormant intellect and kindle it into living power. Of all the solecisms of our day, this cry of over-education seems to me one of the most foolish; as though the hope of Canada's agricultural future depended, like that of Egypt with its degraded fellahs, or of Cuba, with its prædial negroes, on the ignorance of the tillers of the soil. Over-educated! Why it is a common thing for the sons of Lothian farmers to take their place among the students of the University of Edinburgh, and there to master the sciences which they are afterwards to turn to practical account. Perhaps a little more training of a like kind for the Irish farmer might not be wholly unavailable in the present perplexing crisis: for which, at any rate, over-education is certainly not at fault. Doubtless the thews of the sturdy backwoodsman have sufficed to fell our virgin forest, and let in the sunlight on its first clearings; but our annual provincial displays give the best proof that the aspirations of the Canadian farmer reach toward something higher. With our well-organized school system we are, in fact, prone to over-estimate results. Admirable as these are, there is still abundant room for the elevation of the whole standard of popular education. When the rich treasure house of knowledge has been thrown open to all, the relative difference will remain between the gifted and highly cultured few and the well educated commonalty; while among the latter, knowledge will reveal its economic worth in every branch of industry. Nor can it be doubted that, in the great

social revolution on which the nations are now entering—traceable as it is, in no small degree, to the industrial resources of our New World's virgin soil,—the victory will be won, as in the past, by intellectual supremacy. The great centres of industry, the workshops of the world, have not been found heretofore, nor are they now, estranged from the seats of learning. Metaphysics, indeed, will not much help the agriculturist; nor can the Georgics of Virgil be specially commended to his study, though they are the work of a Mantuan farmer. But science and scholarship have widened their bounds, and include knowledge for every class. Coleridge, and the sanguine poets of the Lake school, dreamt in their bright youth of a home in our New World where the tilling of the soil and the culture of the mind shou'd prove in no degree incompatible; and many a sanguine dreamer has since yielded to the same seductive fancy. This idea has indeed been incorporated in the scheme of Cornell University, which provides "for instruction in such branches of learning as are related to agriculture and the mechanical arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life"; and at its inception the experiment was tried of combining profitable mechanical industries with the pursuit of learning. The aim, at least, was a generous one; devised in the same spirit which here, in other ways, endeavours to render intellectual wealth available to the gifted aspirant of every rank. Let us not discourage the idea that in the world's future, and above all, in this home of freedom and industry, the good time is coming—though doubtless for us of the elder generation. "Far on in summers that we shall not see,"—when intellectual capacity shall not be thought incompatible with

mechanical toil ; when another Burns, dowered with all that culture can lend to genius, "may wake to ecstasy the living lyre" while following the plough ; another Watt or Stephenson, trained in the mysteries of statics and dynamics, may revolutionize the economic service of mechanical forces ; another Hugh Miller, rich in all the latest revelations of science, may interpret more fully to other generations the testimony of the rocks. Meanwhile we may look forward, without any dread of the fancied ills of "over-education," to a widely diffused culture, broad and thorough, with its few eminent scholars and specialists rising as far above the general standard as the most cultured of our own day excel the masses. For, after all, the highest education is but a relative thing. To the author of the "Principia," all that he had achieved seemed but the work of a child, when compared with the vast ocean of truth still unexplored ; while to the rustic admirers of Goldsmith's village schoolmaster :—

Still the wonder grew
That one small head could carry all he knew.

The pastoral valleys of ancient Greece and modern Switzerland, the fens of Holland, and the rugged soil and ungenial climate of Scotland, tell what mental culture can accomplish when placed within reach of all. We need be in no fear that Canadian Bacons and Newtons, Porsons and Whewells will multiply unduly ; and for the rest we may safely leave the chances of an excessive crop of lawyers, doctors, or teachers to the same laws of supply and demand which regulate the industry of the manufacturer and the produce of the farm. But of this we may feel assured that in the grand struggle of the nations in the coming time, the most widely educated people will wrest the prize from its rivals on every field where the value of practical science and

the power which knowledge confers are brought into play. For after all what is science, knowledge, *Scientia*, but the whole accumulated experience of the past.

I had occasion at last Convocation to congratulate the students, and every friend of higher education, on changes in the University scheme which tended to substitute to a large extent for a system of paper examinations, very partially dependent on the instructions in the lecture room and laboratories : *bona fide* examinations on the actual work of the year. Prolonged experience must determine the wisdom of the change ; but thus far, the results confirm its value. In the ever widening compass of academic requirements, it becomes more and more difficult to harmonize the demands of true scholarship and science with the possibilities of the most diligent student. Everywhere the friends of higher education are seen marshalled into rival camps contending about the relative value of classical or scientific training, of ancient or of modern languages. The contest originated in the attempt to graft the ever-increasing demands for scientific education on the old academic scheme of Classics and Mathematics. Nor, so far as a mere paper programme is concerned, is there much difficulty. It is an easy matter to prescribe a scheme of encyclopædic proportions, such as may be found in the calendars of colleges whose graduates are to be the "admirable Crichtons" of the new era ; masters of all conceivable learning ! But the old classic aphorism, *ars longa, vita brevis*, has a force undreamt of when it was uttered. The Chancellor of the University of London, when recently addressing the friends of the newly founded School of Science at Birmingham, referred to the importance assigned to scientific education in the London requir-

ments; and added: "it gives no degree without insisting on a solid, though not, of course, extensive knowledge of the foundation and methods of science." In this statement the practical limits are sufficiently indicated; for diffuse study ranging over the ever-widening fields of science, as of letters, necessarily ends in a superficial smattering: the "shallow draughts" which intoxicate the brain with their froth and fumes! This is the danger to which the modern student is exposed. Selection is indispensable; and here I touch upon a problem for which some of our youthful educational reformers are ready with a very simple solution. The plan most favoured is that of "eclectic courses of study" arranged for the student at his own sweet will, in which he is to eliminate from the undergraduate course all that is distasteful to him; give diligent attention to whatever subjects please him best; and graduate on the requirements of a standard of his own. This charming ideal, if fully carried out, would convert the entire course of student life into one long kindergarten holiday; though, I fear, to most, with an unpleasant awakening from dreamland.

If I do not misinterpret the workings of two rival systems now in operation in the neighbouring States, Yale and Harvard are at the present time at variance on this very question. The one insists on the time-honoured idea of the undergraduate period as one in which the student "is under tutors and governors," and constrained in his own highest interests to pursue a specified course, which is no royal road of pleasant dalliance up the hill of knowledge; but rather one which incites him:—

To scorn delights and live laborious days.

The other, along with liberal pro-

visions in a wide range of studies, issues its "elective pamphlet," and leaves the choice of work to the under-graduate's own taste. I doubt if any earnest student looks back in later years with regret on the compulsory studies imposed on him; or resents the academic restrictions which compelled his adherence to a strictly defined course. The eminent preacher, Robertson, of Brighton, himself an Oxford graduate, when pressing on a young friend the advantage of a rigidly prescribed course, dwells on the lasting benefits resulting from the pursuit for three or four years of a distant but well-defined aim; and adds: "I defy any young man to create this for himself. At college I attempted this, and now I feel I was utterly, irreparably wrong. Now I would give £200 a year to have read even on a bad plan chosen for me, but steadily." In this confession I am sure not a few will join, and those most strongly who, with exceptional gifts not unwisely used in later years, look back on opportunities irretrievably lost, not by idleness, but by the evasion of distasteful studies. For be it ever remembered, it is education in its true sense, and not a mere university diploma you have in view. The academic honours and rewards which lie before you are worthy incentives to exertion; yet the very last idea to be encouraged is that which recognizes a university degree as in any sense the final goal. The honours a man wins at college will count for little afterwards if he fail to redeem the promise of his outset. They are rather memorials of talents turned to no account. He has been sent forth armed and equipped, and has failed in the battle of life; or at best, has gone down to the battle and tarried with the stuff. Severe, systematic study is of inestimable value in its moral discipline. I have had the assurance of merchants, bankers,

and the heads of leading legal firms, that three years' service of a well-trained graduate are worth more than five of an ordinary youth. A systematic honor course, even though in itself defective, might have rescued the vagrant genius of the greatly gifted Coleridge, and redeemed the promise of its dawn; might have consecrated the life of Shelley to all that was noble and pure; and instead of squandering the rare gifts of DeQuincey on ephemeral essays and reviews, might have linked his name with a work that posterity would not willingly let die. A systematic honor-course in mathematics and physics, for which Carlyle showed no inconsiderable aptitude, might have constrained the volcanic impulses of his exceptional genius within such self-control as would have brightened his own domestic hearth and rendered more beneficent his influence on his age.

But no system of academic training can ignore the marvellous expansion of the sum of human knowledge, or the impossibility of the most gifted student to master all its varied treasures. The old Oxford "double first," who attained to the ideal of academic preëminence by superadding to the culture of the classical scholar the excellence of the mathematician, is a thing of the past. An elective system in some form is indispensable. But while in this neither the aptitudes of the student nor his aims in life should be lost sight of, education must not be confounded with professional training. All options and honor departments are valuable only in so far as they are consistent with a thorough general education of some sort, the solid foundation on which alone true professional training can be based. This idea has accordingly guided the senate in the determination of prescribed requirements in the several honor departments, and to these an important addi-

tion is now made. Since last Convocation we have had the pleasure of welcoming as a member of our college staff Dr. McCurdy, a distinguished Oriental scholar; and with the increased facilities thus furnished, the Oriental languages have been placed on a par with the ancient and the modern languages as a special honor department. In so doing the Senate has recognized not only the claims of the affiliated Theological Colleges, but also the important place which the study of the Oriental languages must occupy in relation alike to all early Asiatic history and to comparative philology. The influence which Arabian science and learning exercised on the first great reawakening of Western Europe after the fall of the Roman empire is still traceable in the terms and formulæ of astronomy, algebra and chemistry. The growth of the science of language itself is due in no slight degree to the modern study of Sanskrit and other Indo-Iranian languages in their relation to the great Aryan family; while the tracing out the separate genealogies of the Aryan and Semitic tongues reveals the remarkable fact that the two groups of inflected languages, with alphabets of common origin, have distinct roots and essentially diverse formative elements, with no recognizable traces suggestive of descent from any common mother tongue. For this new honor department, as for those of the ancient and modern languages, mathematics and physics, the natural sciences, and the mental and moral sciences, additional subjects are prescribed, with a view to combining with the thorough knowledge of the specialist such adequate breadth of study as shall enable him to turn it to best account. But it is not to be imagined that this or any other university scheme assumes that its graduates go forth at the end of a four years' course endowed with all

needful acquirements. Much has been said in the past, and perhaps even more in recent discussions, about the necessity of providing amply equipped post-graduate courses of instruction; and along with this it has been made a subject of reproach that some of our ablest graduates go elsewhere in search of special advantages. It is not to be denied that the graduates of our own, as of many another university, have looked with envious eyes on the ample revenues of the Cornell University at Ithaca, and on the still more magnificent endowment of the Johns Hopkins University at Baltimore. I trust the day will yet come when from the generous liberality of its own graduates and friends, far more than from any State aid, this university shall be endowed with revenues adequate to its needs, and constitute a still greater centre of attraction than it is now for Canada's most ardent students. But I cannot sympathize with those who regard it as an unalloyed evil that some of our best men, after completing their undergraduate course and winning our highest honours, aspire to a fellowship at the Johns Hopkins University, or a degree in science or philosophy at Edinburgh, Berlin, or Leipsic. On the contrary, there are few gifts that I more earnestly covet for us than the endowment of travelling fellowships, such as at other universities both in Europe and on this continent, not only encourage, but furnish the means to enable the young graduate to visit foreign seats of learning, and avail himself of the culture and moral training which travel supplies.

Already the alumni of this college have won for it an honourable name, and given the best evidence of the high training furnished in our own class-rooms, by the rank they have taken in the open competition for the Johns Hopkins fellowships. So far from their going to Baltimore tending

to discredit us, one of its most distinguished professors has publicly expressed the opinion that our mathematical and physical departments are second to none on this continent. In Edinburgh I found in like manner that the sound culture of the graduates we send to them was no less heartily recognized. In Leipsic, Heidelberg and Berlin, the name of this university is honourably known through good work done there by graduates from this college, whose love to their old *Alma Mater* is not lessened by such tests of the value of the training here received. In truth, had I a son to train in the knowledge that is to be available for any noble career, I should assuredly, when his undergraduate course was completed, send him abroad to seek among the scholars of other lands that breadth of culture which no single university fully supplies. The Englishman, trained in the imperial centre of a dominion on which the sun looks in all its course, finds, nevertheless, that he has to be emancipated from many an insular prejudice; and though our lot is cast on this broad domain, stretching from ocean to ocean, we too are not without some provincial prejudices, which it is well we should be rid of.

But while I thus invite you to view with complacency the resort of our students to other seats of learning in the prosecution of their post-graduate studies: it is our privilege to-day to welcome to our Convocation the representatives of another university which, as we are now assured, is prepared to enter into hearty confederation with us for the more thorough promotion of higher education: and the rendering of our common university still more efficient than it has already proved in all the functions of a national seat of learning. When we assembled here a year ago, I referred to what was then an uncertain ele-

ment of hope or of apprehension. The confederation of all denominational and other colleges of this Province, aimed at more than once in previous legislation, had anew been proposed; and the results of protracted deliberations had been reported to the provincial executive and submitted to the corporations and churches represented at the previous conferences. Now we are able to look upon the scheme from a wholly different point of view. Some who shared in the deliberations, and thereby encouraged the hope of arriving at a basis of union acceptable to all, have withdrawn. But to-day we welcome, in the Chancellor and other members of Victoria University, the representatives of a large and influential denomination which proposes to join forces with us in a united effort for the advancement of higher education in Ontario. A competition of rival universities for the conferring of degrees can never be favourable to a high standard of education, whatever benefits may result from colleges seeking to rival one another in the educational advantages they offer. It was inevitable that in the early stages of our conference with them, the representatives of denominational colleges should regard this institution with jealousy, and that demands made by them under such feelings should be distasteful to us. So long indeed as their attitude was one of antagonism this was inevitable. But now that the representatives of Victoria College, acting with the full authority of the General Conference of the Methodist Church, cordially entertain the proposal of union, it assumes an entirely new aspect; and we can look forward to a reconsideration of details without apprehension. They will find, I doubt not, that the view is wonderfully changed on looking at things from within instead of from without. It may indeed be likened to the conflicting per-

plexities in the schemes of older astronomers, when compared with the simplicity which Copernicus introduced, by directing their view to the true centre of our solar system. Nor will it perhaps be without a reasonable lesson for ourselves to recall what reception was extended by the theologians of his day to his grand disclosure. It is well that science and religion go hand in hand in advancing the progress of the world. Some of the noblest names on the golden roll of letters and science are of those who have most largely contributed to the harmonizing of their truths. But neither is benefited by being placed in undue subjection to the other. We take from the inspired page our motto: "Let there be light," and whenever science seems to conflict with revelation: let there be more light! Denunciations of doubt and repression of inquiry may impede research and retard discovery; but truth will triumph in the end, and when it does so all seeming conflict vanishes. Universities have ever been conservative; yet also they have been the centres of liberal thought, and of the most potent agencies for advancing knowledge and emancipating it from error. It is in this spirit that we desire to promote the confederation of the State university with denominational colleges. Their interests and ours will henceforth be one. The secular education which the state upholds by means of the university endowments has no sectarian character. In so far as it maintains the high standard which the Province has a right to exact from its teachers, it must prove equally acceptable to Catholic and Protestant, to Episcopalian, Presbyterian, Baptist or Methodist. When it falls short of that high standard it will be the interest of all alike to have it reformed. Already our university confederacy embraces, with one exception, represen-

tatives of the leading denominations. To-day we welcome those whose presence in our Convocation gives the assurance that this exception is no longer to exist. To the representatives of Victoria College, accordingly, we tender to-day our cordial fraternal greetings. We are prepared to welcome the transfer of Victoria College to Toronto with as full an equipment in the faculty of Arts as experience shall prove to be desirable. We have no wish to hamper them in their desire to exercise every function of an independent affiliated college, in the same way as is already fully accorded to Woodstock and St. Michael's Colleges. We only need the completion of this union in the same spirit as has characterized previous steps, to present to the younger provinces of Canada, and to the world at large, a national university system of which Ontario may well be proud. Whether, henceforth, the teaching staff maintained by national endowment be designated a university or a college professoriate, the entire compass of its instruction must be equally accessible to all who are willing to avail themselves of it; and the interests of the whole people require that it shall be sustained in thorough efficiency in every department of a liberal education. There are no such things as denominational diversities in classics or mathematics, in the modern languages or the natural sciences. Now as heretofore, this institution—under whatever name—must be able to place the highest educational advantages within reach of all, whether as students or instructors, without distinction of party, race or creed. But along with this the religious convictions of a Christian people receive their just recognition, in the part assigned to the representatives of denominational colleges in the University Senate. Questions of creed or church government, on which they

differ, can play no part in our deliberations. But we are at one in recognizing that without moral culture mental breadth is unattainable, and intellectual acquirements are of little avail. Still more, we unite in the conviction that the one standard of moral excellence worth aiming at is that which we owe to the Great Teacher, even Christ. These are no novel features in the system of national education which this college represents; nor has it failed to commend itself to the people of Canada. It has already stood the test of time sufficiently to prove that it is no failure. The sons of our first graduates have followed their father's steps. I have witnessed the best of all evidence of practical approval of the work done in this college, by seeing two generations, in ever increasing numbers, enter and proceed to their degree. In that period we have advanced in all ways, in healthful progress and in increasing efficiency. We have been met with bitter opposition, and assailed in forms best calculated to enlist the blind forces of unreasoning prejudice against us. Yet to-day we welcome the largest number of new entrants ever admitted to this college; while our influence has been owned in the elevation of the whole standard of higher education, not in this Province only, but throughout the Dominion; and while we have resolutely maintained its strictly national and unsectarian system, we rejoice to find it more than ever recognized as one in which the largest and most influential bodies of Christians can heartily cooperate. To visitors from other provinces and from foreign lands, I am accustomed to point with pride to the affiliated colleges and theological schools of different denominations that surround the university park; and I shall look with no less cordial feelings on the stately building which the friends of Victoria College pro-

pose to rear alongside of us, as a crowning feature in our scheme of national unsectarian education.

When the union which that building shall symbolize has been fully accomplished; and University College has been merged in a University Professoriate, with ample educational advantages available for every student; we shall require only the alteration of a single word in the petitions of our daily college ser-

vice, while we still implore the divine blessing on this university, its professors, teachers, and students, praying that it may be made a fountain of learning virtue and piety, continually enriched with heavenly benedictions; and that all who go forth from it may have grace to use wisely and rightly the knowledge here acquired, and ever to employ their talents in the cause of righteousness, justice and truth.

ADDRESS TO THE ONTARIO TEACHERS' ASSOCIATION.

BY THE PRESIDENT, SAMUEL MACALISTER.

(Continued from page 302.)

AS soon, however, as they get into the clutches of the law, then it begins to take an interest in them, and sets itself vigorously to work to reclaim them. "These strange people," our visitor might remark, "have a proverb which says 'Prevention is better than cure,' but in their public affairs they seem to think that cure is better than prevention." Surely it would be better to get hold of these boys and girls before they become inured to a life of crime, and place them in an institution where they would be brought up as useful and wealth-producing members of society by being taught, along with the rudiments of an ordinary education, some useful employment.

What our Government has neglected to do, it has remained for a number of private individuals to attempt. Several gentlemen have formed themselves into an Industrial School Association, under the Act that was passed last session. The most active among these is Mr. W. H. Howland, the present Mayor of Toronto, whom, I am glad to say, we shall have the pleasure of

listening to upon this subject on Thursday evening. This Association has secured a piece of ground at Mimico from the Government, and has proceeded to erect buildings on it which will soon be ready for occupation. No efforts of it, however, nor any of the Toronto Public School Board, which is co-operating with it, will relieve the Government from its duty of trying to keep our street arabs from becoming criminals. The least that it can do is to liberally second the efforts that are being made by these two bodies, and when next they ask the government for bread, I trust they will not, as on a recent occasion, be tendered a stone. When schools like the one at Mimico have been established to receive those children that cannot be made to attend our Public Schools, we may regard our system of education as fairly complete, and only then can we consider our duty in keeping the question of industrial training before the Government and the country fulfilled.

One of the objects we aimed at from the start, and indeed one that is

avowed in the preamble of our constitution, was to encourage the formation of Local Associations. This we did by making delegates from these Associations at one time members of our Board of Directors. We also regularly received reports from them regarding the condition and progress of the bodies which they represented. A time for this, until within the last year or two, was always provided at our meetings. I think that this custom of hearing the delegates' reports should still be honoured in the observance. Our purpose was to secure greater interest in educational matters throughout the country by means which would afford teachers an opportunity of comparing their views, and of receiving benefit from each other's experience. We found in the person of the late Minister of Education, Mr. Crooks, a warm supporter of these institutions, and I am free to say that many which are now in a flourishing condition owe their existence to him, while others owe a large increase of vitality to his friendly aid. When we consider that these local Associations are the centres of intellectual and professional activity among the teachers of the district; that they give an opportunity to improve professional work, and tend to foster a professional spirit, we cannot attach too much importance to their establishment. With the whole country mapped out in districts having each its local Associations, a question, which has more than once occupied our attention, will again come to the front. It will have to be considered whether the Ontario Teachers' Association should not become a purely representative body, composed of delegates from these local bodies. I am aware that there are difficulties in the way, but these are not insuperable, and I feel sure that as years advance, we shall see our way through them to accomplish our purpose. I need

hardly say that as a representative body the strength and influence of the Association would be greatly increased. It would then become, in the full sense of the word, an Educational Parliament, and would exercise an influence on the educational affairs of the country which would be beneficially felt to the utmost school section in it.

After having the examinations for teachers' certificates and the method of selecting inspectors put upon a satisfactory basis, our attention was turned to the training of teachers. Formerly the only place where professional training could be secured was in the Normal School. But the accommodation there soon proved inadequate to the wants of the Province; even before the establishment of a central board of examiners, when candidates had to pass one or perhaps two years at that institution, it was crowded. But when the change in the method of examining was made, it was found impossible to provide for the professional training of all classes of teachers at that institution. In 1873 the Public School Section of this Association took the matter up, and after due deliberation, recommended that County Model Schools be established, "and that all candidates for third-class certificates who have not previously taught a Public School for three years, be required to receive a training as Pupil Teacher in some such Model School for that period." Model schools, such as those recommended, were subsequently established, and they have been fairly successful in giving to our young people some of the intellectual equipment for taking charge of a school. That they are not more successful is not their fault, nor is it the fault of the teachers of the Model School. It is the fault of the scanty training the system, as established, provides for them. It will be interesting to examine this matter of Model School training somewhat closely.

When a candidate has secured a non-professional certificate of the second or third class he enters a Model School, not for a three years' course of professional training as was recommended by the resolution above quoted, but for a three *months'* course. During that brief time the Principal of the Model School is expected to deliver to the students in training, three courses of lectures—twenty-eight on education, ten on school law, and eighteen on hygiene—or fifty-six lectures in all. In addition to these the student receives lessons in music, drawing, and drill or calisthenics; he is also expected to review his non-professional work in composition, grammar, arithmetic and literature. In addition to all this, the most important part of his three months' course, that of learning to teach, has to be sandwiched in. He gives an average of thirty lessons to the pupils of the school, under the supervision of the Principal or his assistants. As the last seven weeks of the course are prescribed for this work, he must give at least four lessons a week, and since he is expected to make a thorough preparation for each lesson beforehand, he must surely find that the work of preparing for his non-professional certificate was small compared to the enormous amount required of him during his short Model School term. The only person whose labour can compare with his own is that of the Principal. With these facts before us, it is vain to think that cram ends with the non-professional course. It must be as rife in the Model School as it is in the High School. The students in training, however, have this crumb of comfort that there is much more certainty about their success, for while over fifty per cent. of those who write for the non-professional certificates fail, not more than six per cent. of the students in training who write for third class profes-

sional certificates are rejected. At the end of this hurried thirteen weeks' course, ninety-four per cent. of our students in training stand forth as full-fledged teachers, empowered by their certificates to take charge of any public school in the country. In fact the Model School is supposed to do as much in thirteen weeks for them as is done for pupil-teachers in England by a four years' course of training. While with us a medical student has to go through a four years' course to minister to the wants of the body, and a theological student has to go through a similar course to minister to our spiritual wants, a student in training at our Model Schools is expected to acquire the knowledge and skill necessary to develop the mind and character of the young in thirteen weeks. The rudest of handicrafts requires a longer apprenticeship than this. It would need more time to learn to handle a spade, to wield a hammer or trowel, or to run a sewing-machine. The time is not long enough for a student to learn, I will not say how to present a subject before a class, but to present *himself* before one. Can we wonder that there are complaints among inspectors about the crude nature of the work done by these young people when they are put in charge of schools. Of course at first their efforts must be, to a large extent, empirical in the most delicate and responsible task that can be entrusted to any human being—that of developing the lineaments of the divine image that we are all made in. To make matters worse, these third class teachers receive their so-called professional training in graded schools, and when they go to teach, in at least three cases out of four, they are placed in charge of ungraded schools, where they have classes from the alphabet to the Fourth Book. To a teacher experienced in the work of an ungraded school, the task of taking

charge of a new school is difficult enough. What then must it be to a young person wholly inexperienced in that kind of work? Only those who have passed through the bitter ordeal can give the answer. And what must be the result to the pupils? Loss of time, the formation of careless and idle habits, laxity of discipline, and in many instances disregard of properly constituted authority.

I trust I have said enough to show that our efforts to secure a proper course of professional training should not be relaxed. In England, I have said, a pupil teacher has a four years' course. He begins at the age of fourteen as an apprentice in a school under a certificated master, and carries on his professional and non-professional work together. His improvement in general and professional knowledge is tested by frequent examinations, the questions for which are prepared under the authority of the Education Department. At the end of his time as a pupil-teacher he passes an examination for entrance to a training college, where he has a two years' professional course, after which, if he has made fair use of his opportunities and shown reasonable aptitude, he is supposed to be completely fitted to undertake the duties of a teacher. I do not think it possible for us to have a plan like this in Ontario; nor, if it were possible, do I think it would be in all points desirable. We have a decided advantage in getting students who have finished most of their non-professional work before their professional training begins. They are thus enabled to learn in a shorter time their professional work. A two years' course in connection with a Model School should be ample for that. I fear, however, that the meagre salaries paid to teachers, and the present state of opinion in the country, would not justify so long a course

of Model School training. It might, then, for the present, be limited to one year. The first part of that year should be spent in the Model School doing work of a similar character to that at present, but less in quantity. After a short Model School term, the students should be distributed under the inspector's direction among the various schools of the district in which the Model School is situated. The Inspector would, of course, assign the students to those schools where they could best learn to teach.

In these schools, under the eye of competent masters and mistresses, students would LEARN TO TEACH, as they can only learn *by teaching*. And they would do so under the most favourable circumstances, having in each case a responsible person, and one who is interested in the work, to guide and assist them, and observe what they do with a friendly, though critical, eye. The work should be made as easy as possible for the student at first, for I believe with John Stuart Mill that "it holds universally true, that the only mode of learning to do anything is actually doing something of the same kind under easier circumstances." The inspector should have the power to move the students from one school to another at the end of a certain time, if he thought the varied experience would benefit them. That they should not lose sight of the science while they are learning the art of teaching, they should assemble, say once a month, at the Model School, to review their work and receive lectures on the subjects prescribed for their course. I have already spoken of the excessive amount of work thrown upon the Principal of the Model School. This he should be relieved of, so far, at least, as the lectures on education are concerned. These should be assigned to the inspector, whose wider experience in the district renders him better able to

deal with the subject practically in regard to such matters as school organization, school management, methods of discipline, and methods of teaching. As most of the students in training when they enter the Model School, have reached the age at which in many other occupations they would be bread-winners, I think that some remuneration should be given to them during the time that they are acting as assistants in the schools of the district. Pupil teachers in England are paid from the time they begin their apprenticeship. In London, for instance, boys receive salaries ranging from one dollar and three quarters a week the first year, to four dollars the fourth year; girls, from one dollar and a quarter the first year, to two dollars and a half the fourth year. A payment, however slight, would have the effect of reconciling them to the greater length of their apprenticeship. At the end of the year they would assemble at the Model School for their professional examination; and in regard to practical teaching, examination in this should be commensurate with their extended experience. A course of training such as this would, I am sure, turn out better teachers. The longer apprenticeship would have the effect of creating a professional feeling among the students, and would wean them from the inclination so common at present to wander off into other pursuits. The presence of the students in the schools of the district would be a benefit to the teachers in charge of them in more ways than one.

Hitherto, the work of this Convention has been mainly devoted to matters which concerned the country at large, not to what concerned the teachers personally. In this respect,

I fear we resemble those good people who attend to a great many charitable objects to the neglect of their home duties. I am glad to see that we are disposed to make an effort to remove this reproach. By the paper which Mr. Dickson is to read on, "A College of Preceptors for Ontario," you will be afforded an opportunity of discussing what position the teaching body should occupy as a factor in our school system. Up to this time, we have been little better than a rope of sand, and I am sure it would be of immense benefit not only to the teaching profession, but to the country, if some well considered scheme for uniting the whole profession into one compact body with common aims for the good of both the profession and the public, could be carried into effect. But it will need all the wisdom we have at command to inaugurate such a scheme. That this wisdom will be forthcoming, our success in all well-considered efforts in the past, justifies me in expecting. In the consideration of this, as well as the other subjects on the programme, let us look to that past, for guidance and encouragement, and I am sure our work will be the better for it:

In the elder days of Art
Builders wrought with greater care,
Each minute and unseen part,
For the gods see everywhere.

Let us do our work as well,
Both the unseen and the seen,
Make the house where gods may dwell,
Beautiful, entire and clean,

I trust that your efforts will be crowned with abundant success, so that we shall be able to look back to the Convention of 1886, as one of the most successful ones in the annals of the Ontario Teachers' Association.

THE grandest thing in this world is to know what is right and have the courage to stick to it. Enjoyment isn't the end of life. Enjoyment will come in the course of duty, but if a man says: "I'm going to make it

the business of my life to have a good time," he will have a very poor time; but, if he says "I'm going to do my duty," he will meet enjoyment very soon on the road, and they will go hand in hand to its end.

THE ONTARIO COLLEGE OF PRECEPTORS.

BY WILLIAM BURNS, B.A., M.C.P., LONDON.

THERE can be no doubt but that the educational question is becoming every day of more absorbing and practical interest in this Province. It will inevitably force itself upon the consideration of every parent, in one or other of its multitudinous forms, and on that of every taxpayer, when the vast expense of teaching the young is considered. Now, as has been well said, "schools are a necessity, not a luxury"; hence the question to the ratepayer is, How to secure the maximum of efficiency at a minimum of expense? By this, we do not mean, by the payment of low salaries, for it is a well known maxim of Political Economy that "cheap labour is generally the dearest in the end," but, due regard being given to the requirements of the situation, the question is to solve the difficulty of finding the most suitable person to fill the place who will thus be the best and cheapest. When the present school system of Ontario was instituted, it fulfilled all the requirements of the country, but the rapid growth in its population and wealth, along with the ever increasing desire for education, and that of a higher order, have outstripped the ability of our educational system to supply the demand created. The expansiveness of the system, however, is so great that only a few changes need be made to meet the new state of things. First, in regard to the teachers themselves. We must admit that these are now quite able to manage their own professional business, otherwise they are not fit to be teachers, but we find the paternal kindness of the department taking so much care of them that, like rapidly

growing children, the clothes once useful are now becoming harmful to health and development. The rules and regulations of the department are certainly too rigid to allow of the rapid growth that is going on, the question is, then, What is the least radical change that can be carried out at once, so as not merely to preserve their personal independence but to increase their usefulness? We claim that this can be best done by making them a self-governing body. Next in regard to the future supply of teachers—this is a matter of vital importance; so many leave the profession every year that unless an efficient means of supplying the vacancies can be found, things will soon be at a standstill. One objection to the college as proposed is, that entrance to the profession will be made more difficult, so that the salaries of the present holders may be raised; but it will be well to remember that most of the men who are likely to be upon the council will be those who themselves are engaged in supervising the work of others, and that if these assistants are not forthcoming, they will be required to do the work themselves, hence they will be interested in securing a good supply of qualified assistants, and next in seeing that these be duly trained to the work—two facts which will practically overpower all such theoretical objections.

In regard to the popular view of the matter, it seems to us that the offer of the teachers of this Province is simply to relieve the public purse of a heavy item of expense, in order to increase the efficiency of national education, and this at no cost, except,

as before said, of a public acknowledgment of their ability to manage matters for themselves. The proposal leaves the County Councils and Provincial Parliament just as absolute as they now are in all financial matters, and merely deals with professional efficiency required to earn such payments. Further, the Government will be relieved by the college of all responsibility in the matter of teachers' examinations; the discussion on these assumes at times the magnitude of a political question, and might even overthrow a party, or at least greatly sap its strength and influence at any general election. Henceforward this could no more be a political question than the qualifications required from lawyers or doctors, or the course of study judged most suitable for them, can be at present, and the Government would thus be relieved from all the onus and responsibility it has to assume under the present system.

In order to make the proposed college a reality, it will obviously be necessary that compulsory registration of all teachers shall be the main feature of its existence. Those who compare its probable working with that of the English College of Preceptors, and point to the failure of the latter to carry out completely the objects for which it was founded, must remember that "vested interests" have there prevented, as yet, the passing of any Registration Act, and until that is done, no real status can be given to the scholastic profession. In regard to present outstanding certificates, the proposal to recognize at their full value all those

already issued by the department seems to us to most fully meet all requirements, and to give to the holders of them, as much as they at present hold or can in any way consider as their due, besides enabling the department to keep full faith with those at the time of the passing of the Act—should such ever be done—who are, nominally, its servants, in addition to giving them, what they do not now possess, power in regard to their own profession.

The difficulty of equal representation on the proposed council may easily be met by causing a certain number to be appointed by the Department of Education from among the High and Public School Inspectors, so that these may form a connecting link between the governmental and professional branches, and prevent any misunderstanding in respect to minor points of working. Of the remaining members, a fixed number might be apportioned to the Public and High School Teachers, thus securing a fair representation to both sections.

In this scheme there is thus offered the most ample security for all vested rights, and the promise of wider good both individually and professionally to all teachers. It is at present a reproach that they are only united with "a rope of sand." Let the teachers of Ontario show that they will submit to this reproach no longer, and we are sure that they will have the support of public opinion in their effort to obtain—what all must in a democratic age acknowledge to be their due right—self-government.

TOBACCO BLINDNESS.—Tobacco blindness, it is reported, is becoming a common affliction. At present there are several persons under treatment for it at one London hospital. It first takes the form of colour blindness, the sufferers who have smoked

themselves into this condition being quite unable to distinguish the colour of a piece of red cloth held up before them. Sometimes the victim loses his sight altogether. Although smoking is to a large extent the cause of the malady, drinking is also responsible.

THE RELATION OF HIGHER EDUCATION TO RELIGION.*

BY PRESIDENT WILLIAM DE W. HYDE, BOWDOIN COLLEGE.

THE higher education can only vindicate its lofty claims by showing its vital connection with the every day concerns of average men and women. Let it be suspected of exclusiveness, and it will be distrusted. Let it be judged impractical, unrelated to the real interests of the people, and popular support both of money and of men will be withheld.

Last year, in a most thorough and conclusive manner, the material and social benefits which higher education brings to the community were here set forth. To-night I shall endeavour to indicate the points of contact between the higher education and those spiritual aspirations which it is the function of religion to satisfy.

This is a subject on which two diametrically opposite views have been held. In a general way, allowing for individual exceptions on either side, it may be said that the Latin Church has regarded the relation as external and arbitrary; a matter of judicious expediency if not a tolerated evil. Tertullian, the Father who contended for the materiality of both the soul itself and its future environment, refused to allow a Christian to be a teacher in secular schools where Greek and Latin mythology were taught; and only on the plea of necessity did he permit the children of Christians to acquire "*saecularia studia sine quibus divina esse non possunt.*" Cyprian, the Father whose political philosophy is indicated in his remark that "kingdoms do not rise to supremacy through merit, but are varied by chance," likewise in the references he

deigns to make to "pagan philosophy," is strenuous to separate it as far as possible from Christian faith. Jerome, trained himself at Rome in classic literature, conceded the reading of authors like Terence and Virgil to the young as a necessity, but regarded a love for them cherished and indulged in later life as criminal.

Augustine also laments the delight he found in youthful study of the Latin poets, and though he, like Jerome, defends the employment of such learning as an efficient aid to the defence and exposition of Christian truth, yet he defends it by the analogy of the Israelites who took the gold and raiment of the Egyptians, leaving behind the idols and superstitions, and at length falls back on the practical utility of such studies as helps in the technical work of the preacher. Gregory the Great threw the weight of his powerful influence against secular studies, forbidding the study of classic literature to his bishops, and declaring instruction in such studies to be unworthy of even a pious layman.

In the eighth century Charles the Great undertook, with the aid of Alcuin, the restoration of learning. Here, however, the motive put forth for such study is still external, appealing to the better understanding of Scripture which general culture would bring about. "For," says the capitulary, "since the Scriptures contain images, tropes and similar figures it is impossible to doubt that the reader will arrive far more readily at the spiritual sense according as he is the better instructed in learning."

It is needless that I here recount the long and familiar story of the

* An Address delivered before the Regents' Convocation at Albany, July 7, 1886.

later antagonism of the Latin Church to secular learning: the jealousy of all philosophy and all science which could not be subjected to a servile conformity to her own preconceptions. From first to last wherever Latin Christianity, with its notion of a remote, external, purely transcendent Deity, has prevailed, there the relation between higher education and religion has been either admitted as a necessity, to be jealousy watched, and guarded, and held in check; or else it has been openly opposed and rejected.

To be sure, throughout all this time there have been individual minds rising above this external conception of God, and this arbitrary connection between education and religion. Indeed, nearly all our endowments for higher education have been the gifts of such broad-minded, far-sighted, deep-souled religious men. Religious men from first to last, even within the Latin church, and often under the influence of the Latin conception of a purely transcendent Deity have done the most and the best work in both classic and scientific studies. For science, after all, as Dr. Hedge has well said, is the offspring of the church. Born in monkish cells, the foundling of religious houses, vowed to Christ and the Saints, nursed by cowed friars, cradled among crucifixes and breviaries, with men like Raymond Lully and Roger Bacon and Albert the Great for its sponsors, the child was baptized with the Holy Ghost. And yet, while this is true; while as I hope we shall see science could not have had other than a religious birth and baptism; it is equally true that there has been throughout the entire history of Latin Christianity, and the reign of the Latin conception of a purely transcendent God, an antagonism, latent or expressed, between learning and religion. They have been suffered

to associate as co-labourers. Religion has deigned to acknowledge Learning as her handmaid. She had not, she could not consistently with the conceptions dominating the Latin Church own her as a sister.

Fortunately, however, the Latin with its Deistic conception of a transcendent God, remote in time, distant in space, aloof from Nature and alienated from humanity, is not the only type of Christian faith. From the first centuries, there has been shining with pure and steady light, a warmer, brighter, more natural, more human type of faith. And like the rays of some far off star which has been shining for uncounted ages, yet through the immensity of heaven's impenetrable deeps, has but just succeeded in reaching us with its bright welcome, so through the long centuries the Greek doctrine of the Immanence of God has been serenely sending forth its healing beams, until at length they seem to be winning a response from the receptive hearts of the present generation.

According to this view God is not merely a vague, spatial, semi-material omnipresence, as many are tempted to regard Him when first they seek deliverance from the notion of the far-off anthropomorphic architect. His omnipresence is rational, spiritual. Wherever there is being there is thought, and that thought is manifested God. Without such thought, or idea, or law, or reason, or word, or wisdom, no clod of earth maintains its form, no wave of ocean lifts its crest, no moving air sweeps through the forest, no brook winds its way from the mountain to the sea. Without this indwelling reason no germ bursts its integuments, no branch puts forth its bud, no flower unfolds its petals, no pollen begets in the ovule the offspring which another spring shall summon forth to life and beauty. Especially within the mind of man no

true thought rises to consciousness, no right desire is cherished, no pure affection is entertained, save in so far as the finite mind, and will, and heart thereby participate in the absolute thought, and will, and law of God. Without denying the reality of the finite, or the freedom of the individual will, and thus falling into Pantheism, this view still maintains that the reality of the finite is not in separation but rather in union with the Infinite; and that the human will attains its true freedom only in perfect conformity to the perfect, all embracing will of God.

One would say at first sight that such a view of God must naturally lead to a view of the relation of education and religion altogether more sympathetic and vital than that which has been handed down to us through the traditions of the Latin Church. And such we find to be the case.

Clement of Alexandria, the great representative of the Greek faith in an indwelling God, insists at every point upon the vital and essential unity of religion and learning. Says Professor Allen: "Because Deity indwelt in humanity and the human reason partook by its very nature of that which was divine, Clement was forced to see in the highest products of the reason the fruits of a divine revelation. He makes no distinction between natural and revealed religion, between what man discovers and what God reveals. The higher activities of human thought and reflection are only the process by which the revelation of truth is conveyed to man." Clement admits, as we all must, that "a man can be a believer without learning," but he also asserts that "it is impossible for a man without learning to comprehend the things that are declared in the faith." He contends vigorously against "those who object, what use is there in knowing the causes of the manner of the

sun's motion, for example, and the rest of the heavenly bodies, or in having studied the theorems of geometry or logic and each of the other branches of study, on the ground that these are of no service in the discharge of duties, and the Hellenic philosophy is human wisdom." He tells them that "they stumble with reference to the highest things," and explains "How irrational to regard philosophy as inferior to architecture and ship building!" The intelligent believer he urges "to take from each branch of study its contribution to the truth. Prosecuting then the proportions of harmony in music and in arithmetic, noticing the increasing and the decreasing of numbers, and their relations to one another, and how the most of things fall under some proportion of numbers; studying geometry, which is abstract essence, he perceives a continuous distance and an immutable essence which is different from these bodies; and by astronomy again raised from the earth in his mind he is elevated along with heaven and will revolve with its revolution, studying ever divine things and their harmony with each other, from which Abraham starting ascended to the knowledge of Him who created them." Again he says, "Let us then receive knowledge, not desiring its results, but embracing itself for the sake of knowing."

Such is the intimate relation between religion and higher education as it lay in the mind of the Greek Father. Every indication points to a revival in our day of the Greek type of Christian faith. The immanence of God, the incarnation, the sonship of man to God; the indwelling spirit, these are the central doctrines of the faith of intelligent believers in our day as among the Greek Fathers in the first centuries. As the confluence of all systems then at Alexandria, so the growth of criticism and science is

presenting to the choice of men to-day as the only alternative, either a faith at once profoundly spiritual and broadly rational, or else no faith at all. Without faith men never have lived and never will. It needs no prophet's vision to foretell in the near future a mighty re-awakening of that type of religious faith which views God through His word as everywhere revealed, and man by virtue of his rational nature a partaker in the divine reason. In every great movement it behooves the leaders of education to be awake. Especially does it devolve upon us to be alive to this religious movement, since with the restoration of this type of faith, there comes a nobler and higher conception of what the mission of education is.

By this historical discussion having shown that if what I am about to say seems in conflict with one conception of religion, there yet is another with which it is fully in accord. I may now venture to announce my thesis which is this: The Relation of Higher Education to Religion is that of Contents to Form. Uneducated religion is empty and unsubstantial. Irreligious education is chaotic and inconsistent.

Education and religion are by no means identical. It is not true that as Goethe said, "He that has art and science has also religion." Yet though not identical they are practically inseparable. Though in thought they are distinguishable, they are in fact indivisible.

The claim of such indissoluble unity of interests often supposed to be divided must of necessity meet antagonism from both extremes. The self-sufficient savant will scorn the insinuation that his vast mass of accumulated information is, taken by itself, only a

"Monstrum horrendum, informe, ingens cui lumen ademptum."

The narrow religionist will haughtily

repudiate the idea that when divorced from knowledge his rites, his ceremonies, his ecclesiasticisms "are shadows, not substantial things." Each will feel that the indispensableness of the other is a detraction from its own importance. Yet in truth it is only in and through the other that each gains its proper dignity and grandeur. If I have occasion to show that divided they fall, it is only that I make more manifest the complementary truth that united they stand.

Religion without education is empty. It is a form devoid of contents. This statement is not intended to deny the fact that an uneducated man may be as devout a worshipper and servant of God as the most learned. The individual man, though himself untrained in the learned culture of his day, yet unconsciously shares in the universal enlightenment of the community in which he moves. From the general conceptions of astronomy, natural history, ethics and economics, it is impossible to exclude even the uncultivated member of a civilized community and a Christian church. Accordingly the exception of individual men who are Christians, and at the same time uncultured, is an exception more apparent than real. For throughout every civilized, Protestant, Christian community, except such abnormal conditions as slavery, or misrule, or industrial oppression carry in their wake, in every normal Protestant Christian community, where papers are read and preaching is heard, there is shed abroad a general enlightenment in which even the humblest individual of necessity partakes.

Granting then this apparent exception in the case of individuals, we may without fear of misconception affirm that in the community at large religion without education is a formal, empty, unreal affair, and that the real religion of a nation is bound up with the higher education.

In order to recognize this truth, we must have in mind very clear and definite conceptions of what religion is. If religion is vague awe in the view of the unknowable, as the agnostic declares, obviously higher education has nothing to do it. Between such a conception of religion and higher education the only relation possible is that between the fabled pot of gold at the end of the rainbow, and the credulous child who pursues it. The farther we extend our knowledge the farther off do we thereby push the limits of the unknowable. On such a theory the only difference between learning and ignorance in its relation to religion is

that learning stares at vacancy from a higher eminence, and looks at nothing through a bigger telescope. Truth and God are related only as antitheses.

Pietism, or the religion of mere feeling, likewise has no relation to education. If feeling is everything, then no doubt the less nervous energy one is called upon to bestow in intellectual lines, the more he will have to give out in response to emotional appeals, and the more he can contribute to the edification of a company who measure the intensity of their devotion by loudness of exhortation, depth of groans, frequency of ejaculation and abundance of sensuous excitation.—*The Academy*.

CORRESPONDENCE.

To the Editor of THE MONTHLY :

DEAR SIR,—I thought it might perhaps interest some of your readers to hear of the experience of a fellow-teacher who has had occasion to use, during the past six years, a number of different collections of problems in arithmetic, both in class-work and for various examinations. Out of eight different books of problems, two were published in Canada, three in England and three in the United States. All had good features; but when the present school-year opened, on be-

ginning to use again the book which I had first used, six years ago, I found it more suitable and more satisfactory than any of the others. I am glad to say, Mr. Editor, that it is a Canadian work, (Copp, Clark & Co.) which I have seen advertised in the columns of *THE MONTHLY*. Another valuable collection is that published by Rivingtons, and edited by Messrs. Donkin & Hodge.

I remain, Mr. Editor,
Yours with best wishes,
PRECEPTOR.

THE County of Hastings Model School (Madoc), has, this term, forty-one students in training. The staff is as follows:—Principal D. Marshall, First B.; Principal's Assistant, E. Longman, First A.; Regular Assistants, Miss McDermid, (Second-class B.), Miss Wootton, Second A.; Miss Barr, Second A. and First C., Non-professional; Miss Kennedy, Second A.

HISTORY is the preserver of good deeds and the avenger of bad.—*Pliny*.

PHILOSOPHY, superficially studied, leads away from God; profoundly studied, back again to Him.—*Bacon*.

IN anger nothing can be done judiciously, and therefore no ill-will should be mingled with reproof.—*Cicero*.

SCORES AND TALLIES.

GRANT ALLEN.

(Continued from page 164.)


THE survival of the practice of counting sheep by the score in our country districts very well illustrates this ancient Celtic vigesimal practice. When the new county voter (called in his non-political aspect Hodge or Giles) wishes to number a flock of sheep, he does so by first counting out twenty—the counting itself being often done, not by the ordinary numerals—one, two, three, four—but by the old half-Celtic “rhyming score,” “Eena, deena, dina, dus, Catla, weela, weila, wuss,” and so forth, up to twenty. There, he has reached his higher unit, the score; in other words, one man, regarded as barefoot. So he makes a nick in a piece of wood, and begins his rhyming singsong over again. Thus he counts score after score, till he reaches at last the full number, say eight score and seventeen. At that he rests. He doesn’t translate the numbers into the decimal notation; why should he? It would mean far less in his mind than his native numbers. Eight score and seventeen are to him a far more real and realizable amount than one hundred and seventy-seven. He sticks still to the vigesimal system. Twenty is for Giles the one true higher unit.

A tally in its origin was pretty much the same thing as a score, but it grows at last by usage and the courtesy of language into something rather different. It means in the final resort a piece of wood *taillé*—that is to say, nicked or scored. But the French origin of the word points back to its being the offspring of the more civilized and Latinized decimal system, which replaced (for all save Giles and Hodge) our old native English

and Welsh method of courting by twenties. Moreover, it has now become inseparable from the very idea of a tally that it must needs tally with something or other. This sense of the word arises from the habit of giving the two parties to a bargain each a cut stick, on which the amount at issue between them was duly recorded by means of notches. As these sticks corresponded, or ought exactly to correspond, with one another, a tally came to be popularly thought of as necessarily implying correspondence. In the English exchequer—always conservative—such little bits of notched wood were given as receipts so late as the end of the eighteenth century; but at last they were accompanied by a written discharge as well, and only remained as a pure ceremonial and administrative survival.

It will further illustrate the absolute dependence of arithmetic upon the human fingers (including toes) if we recollect that in many savage languages the very words used to describe the abstract numbers are derived from the fingers or toes themselves. Thus, five in such a tongue will be the same word as “hand”; seven will be expressed by “one hand, two fingers”; and twenty will be put in the graphic form of “a whole man,” or “one man finished.”

People count long before they think of making definite signs or symbols for numbers, and when they begin to make symbols at all the earliest and simplest are mere long rows of notches or pebbles equal in sum to the number thought of. But in time picture-writing begins to develop itself; and then we get the

earliest appearance of true cyphers. For example, the poor Indian of Pope and North America marked ten in his rude hieroglyphics—often rude in more senses than one—by a vague outline of a man, like that chalked on London walls by the surviving boy-savage—a mere dot of a head, with a straight line for body, and two outstretched arms, ended by hands, standing on a pair of very open bow legs. The Roman numerals with which we are all so familiar, and which look so grand, learned and awful when we get them in the developed form of MDCCCXLVIII., start in reality from an equally humble and childish origin. They are mere picture-writing. When the noble Roman of remote antiquity wanted to mark the number one, he drew a single straight line or digit to represent the uplifted forefinger. In our modern type we print it I. For two he drew two digits, or II; for three, he wrote III; and four he represented, not by IV, which is a comparatively late modern innovation, but by the good old clock-dial symbol IIII. These, in fact, are nothing more than just the fingers of one hand. But how about five? Why should it be represented by the apparently meaningless symbol V? Simply because V is not V, but a rude hieroglyphic of one hand, the broad stroke standing for the four fingers united, while the narrow one stands for the extended thumb. V, in fact, is nothing more than a very degenerate pictorial symbol, like the  still used by printers in certain circumstances to call special attention to a particular paragraph. As for X, that is usually represented as equivalent to two such hands set side by side; but this interpretation I believe to be erroneous. I think it much more likely (on the Indian analogy) to stand for "one man up," that is to

say, ten, with a people who counted by fingers alone, or, in other words, employed a decimal notation. If this hypothesis be true, X represents a double of the Indian man-figure, with outstretched arms and legs like a colossus, the hand having disappeared entirely by disuse, as often happens in the evolution of what are called cursive hieroglyphics.

The other Roman numerals, L, C, D and M, belong to a far later and more civilized period. I will not go fully here into the abstruse question of their origin and development, as learnedly traced by Canon Isaac Taylor in his interesting treatise; it will suffice, for most people, to mention briefly that they spring from discarded letters of the Greek alphabet, utilized by the practical Roman mind as numerals, and in two cases gradually twisted round by a false analogy into the semblance of C, the initial of *Centum*, and the delusive shape of M, the initial of *Mille*. This was distinctly clever of the primeval Roman; but he would probably have shrunk from so cruel a course had he foreseen the trouble that his procedure would give to subsequent archæologists, or the battles that would be waged by unborn nations over the origin and nature of his forgotten symbols.

Numerals like I, II, III, IIII, V, and X, scarcely rise above the lowest level of savage picture-writing. They recall the records of the noble red men of the West and the modern Esquimaux, who, when they wish to state a number in writing, do it, so to speak, as the logic-book says, "by simple enumeration," putting down an exact picture of the persons or objects involved in the transaction. Thus, the well-known chronicle of the achievements of Wingemund, chief of the Leni Lenape Indians, who attacked the English settlements in

1762, proceeds entirely on such a direct numerical basis. The chronicle was cut into the bark of a tree in Ohio more than a century since, and it proceeds after the following straightforward manner:—Twenty-three braves went upon the warpath: therefore they represented twenty-three straight lines, bent slightly forward, to indicate progression. For ten days they marched through the forest: so the sun is displayed (with the very same broad good-humoured face he still wears in English caricature) as having surmounted ten lines, each of which marks the horizon. They attacked three English forts—shown by three square bastions; and one of them contained a couple of trading stores—exhibited as small oblongs within the fortifications. Ten vanquished enemies, each very much like an X with or without a head to it, stand on one side. Six of them, however, are headless, and represent the scalped. Four have small round knobs on top, and were, therefore, doubtless taken prisoners. This is, as it were, the raw material of the art-writing from which hieroglyphs and alphabets and numerical systems were finally evolved.

Still, the Roman V and X differ considerably, in one respect, from such Indian picture-writing, and show a corresponding advance in the direction of the numerals. They each represent not a particular object, but a number in the abstract. "*V hominis*" means five men; "*X homines*" ten men. It is not necessary to put pictures of the object five or ten times repeated; the figure alone sufficiently expresses the qualifying number. On the other hand, few people, probably, have any adequate idea of the great difficulties in which arithmetic would be involved were it not for the happy invention of the Arabic numerals. Here is a very simple little sum in addition put Roman fashion. The

reader will find it "a nice amusement," as the mode, papa always tells his daughters, to work it out as it stands without having recourse to Arabic notation:

MDCXLVIII
MCCXLV
DCCXXXIX
MDCCLXXXIV

None of these figures reaches two thousand, and yet what a hopeless task to sum them up without an abacus! But that is, indeed, a small matter. Here are two better tests of the impossibility of arithmetic without Arabic notation. Multiply (all in Roman figures) MDCCXLIV by DCLXXXVI, and divide MCCXLIII by XLV. Nothing could be simpler than those two sums; and yet it requires considerable intellect and very close attention to work them out on paper with the Roman symbols.

The fact is, an abacus, which is at bottom merely a form of score, or tally, was absolutely indispensable for arriving at anything like a high arithmetical result before the invention of the Arabic numerals. The only way to work out a big sum was then to take one lot of pebbles or cowries to mark the units, another lot for the tens, a third lot for the hundreds, and a fourth for the thousands. If one wished to sum up a large number, say to add 2347 to 8929, one put separately into each heap two pebbles and eight, three pebbles and nine (which necessitated a remove or "carrying"), four pebbles and two, and nine pebbles and seven (carry again). No one heap, of course, could ever exceed ten; when it did, nine pebbles were taken out and one was removed to the next heap. Observe how this primitive method of reckoning has coloured all our subsequent arithmetical language and arithmetical conceptions. Just as digit means a finger, and points back to

the period when they reckoned on their two hands alone, so calculus means a pebble, and points back to the period when they reckoned with little heaps of stones or cowries. To calculate is merely to heap up pebbles, and the differential calculus itself is the way we manipulate the small marbles in order to produce certain high mathematical results. Even the very phrase "to carry one," "to carry two," still used by our school children, retains a memory of the time when ten pebbles were taken from the heap of units as soon as it reached ten or more, and one of them was added in compensation to the other pile immediately above it.

The abacus is a device for making the pebble system more systematic and more respectable. By stringing coloured balls on a wire frame, and making the white mean units, the red tens, the green hundreds, and the brown thousands, it is possible to add or multiply large numbers in a way practically all but impossible with the Roman numerals. Besides, this plan had the advantage of being, so to speak, automatic. You added tens and hundreds and thousands to the various rows without counting at all; and then at the end you read off the total according to the number of brown, green and white balls on the different courses. The abacus substituted a mechanical device for a mental process: it made arithmetic an affair of the eye, not an affair of the brain or the intellect.

Still, no great advance in the mysteries of mathematics could ever be expected from arithmeticians who had to use such very rough-and-ready methods of procedure as these. The Greek notation was even clumsier than the Roman, consisting, as it did, of the letters of the alphabet, mostly in their alphabetical order, as if in English A meant one, B two, C three, and U twenty-one. The first step to-

wards the establishment of the simple modern decimal system was made by the Romans, who at last bethought themselves of writing the letters standing for the unit, the ten, the hundred, and the thousand, with the number of units, of tens, of hundreds, and of thousands—the coefficient, as mathematicians playfully term it—written small on top of the significant letters. Thus, 2459 would be represented on this system by $\overset{\text{ii}}{\text{iv}}\overset{\text{v}}{\text{ix}}$ MCXI. The man who saw his way to this great improvement was well on the track of the Arabic system.

But a fatal difficulty stood in the way of his further progress. If we write $\overset{2}{\text{ii}}\overset{4}{\text{iv}}\overset{5}{\text{v}}\overset{9}{\text{ix}}$ MCXI, it soon becomes apparent to the meanest understanding (after which remark the judicious reader will hardly venture to pretend he doesn't see it) that we may safely omit the M, the C, the X and the I, and leave the 2459 to stand on their own legs, their position alone sufficiently expressing their value as units, tens, hundreds and thousands. As the mathematician would put it once more, we may neglect the serial terms and let the coefficients alone stand in their places. But when we write $\overset{\text{ii}}{\text{iv}}\overset{\text{v}}{\text{ix}}$ MCXI we cannot thus abbreviate into iiivvix , because each digit of units, tens, hundreds, and thousands is not represented by a single symbol. We might, indeed, get over that difficulty somewhat by putting points between each series, thus: $\text{ii}.\text{iv}.\text{v}.\text{ix}$; and the number so expressed might be read 2459. But this is at best a clumsy device, and in practice the points would be always going wrong, and reducing our arithmetic to the same hopeless muddle as the weekly books in the hands of our wives and daughters.

What is really needed, then, is that each unit from one to nine should be separately expressed by a single sym-

bol. What that symbol happens to be doesn't at all matter to the general principle: a, b, c, d, e, f, g, h, i, would do quite as well as 1, 2, 3, 4, 5, 6, 7, 8, 9. As a matter of fact, our existing numerals, called Arabic, are a compromise between the two systems of picture-writing and alphabetic signs. They come to us, like the beginnings of most mathematical signs, from the remote and mysterious East; and they make their first appearance under hardly-recognizable forms in the Indian cave-inscriptions of the first and second centuries. One, two and three are there represented by parallel bars, placed sideways instead of lengthways, and standing of course, for our old friends the human fingers. It is easy enough to see how —, =, ≡ are readily converted into 1, 2, 3, the first being made upright on the analogy of the Roman I, and the other two being hastily run together with connecting lines into 2 and 3. The other units, 4, 5, 6, 7, 8, and 9, are the initials or most prominent letters of the name of each corresponding number in the language of the inscriptions. We might make a similar English table thus: —, =, ≡, F, V, S, E, I, N. The immense advantage of the new numerals lies, of course, in the fact that each of them represents a single unit by a single symbol, and so allows us to express sums like 2, 347, 859, 427, and so forth, in a way unattainable under any other system. Nay, our symbolic conceptions are thus allowed even to outrun the resources of language, and the astronomer and the mathematician now habitually deal with strings of figures which it would be impossible for them so much as to express in words.

Most things, unfortunately, are called by wrong names. Our existing ciphers, though originally Indian, are now universally described as Arabic, because they came to the western world from India and Africa through

the mercantile medium of the Spanish Arabs. From Spain they spread to the European nations, though not without considerable opposition by the way, such as invariably testifies to the goodness and soundness of every genuine human improvement. Whenever you hear a loud popular clamor raised against anything as wicked or foolish, you may be pretty sure it will really turn out in the end a valuable invention: what everybody says must be wrong. This simple conclusion flows as a matter of course from the familiar principle, first definitely formulated by "poor Carlyle," that there are so many billion people in the world, mostly fools. Paynim numerals met with little favour, accordingly, from the mediæval merchant. The bankers of Florence were forbidden, on the verge of the fifteenth century, from employing these dangerous Saracen signs in any of their account books; and the University of Padua (so very like our own Oxford) ordained that its stationer should keep a list of books for sale with the prices marked, "not in ciphers, but in plain letters." The hapless modern purchaser rather desires, on the contrary, that prices should be marked, not in letters, but in plain ciphers. It is noticeable that the very word cipher, here employed, is itself Arabic, and its progeny includes not only the familiar French *chiffre*, but also, through the Italian *zefiro*, the much less immediately recognizable derivative, zero. Arabic numerals were at first confined in use to mathematical works; they were then employed for the paging of books; and it was not till the middle of the fifteenth century that they first found their way with any security into general commercial society.

It is curious to reflect that the whole decimal system itself, with all its faults and shortcomings and awkwardness, has been foisted upon us as a pure survival by the mere acci-

dent that man happens to have five fingers on each hand. Counting by tens is a legacy of savagery. If mathematicians had now to devise, *de novo*, a system of numeration—if a new and universal French revolution were to sweep away at one fell swoop all records of the past, and set humanity upon its legs once more on a *tabula rasa* of arts and sciences—there can be no doubt that eight would be the number immediately hit upon by the worshippers of reason as the best possible basis for an arithmetical series. Eight would then be written 10, and 64 would be written 100, while the symbols 8 and 9 would be entirely discarded from the reformed arithmetic. For eight is a good square number, divisible all round, by two, and by four, and halving evenly till it reaches unity, by the successive stages of four, two, and one; whereas ten lands you at once in five and two-and-a-half, which are useless and impossible quantities to deal with practically. But the accident of savage man's predilection for counting on his fingers has burdened us for all time with this clumsy and awkward decimal system: while only the lucky fact

that the Greeks and Romans wore shoes has prevented us from the still more terrible habit of reckoning everything by scores or twenties.

To go a step further back, as an ingenious American philosopher has pointed out, mankind uses decimals instead of octonals to-day because in the progress from the finned fish to the four-limbed amphibian the number of fin-rays on each limb happened to be reduced from eight or ten to five only. Hence most of the higher animals have five fingers or five toes on each extremity; and man in this respect conforms strictly to his early pre-human arboreal ancestor. If that ancestor had had only four toes, like so many quadrupeds, we might now count by eights or sixteens; but the accident of his possessing five digits on each limb has saddled us forever with the foolish custom of reckoning everything either by tens or by twenties. Our most advanced mathematics bear obviously on their very face the marks of their irrational and savage origin, and more remotely recall the evolution of the race from a many-rayed mud-haunting amphibious progenitor. —*Lippincott's Monthly.*

EDITORIAL.

SCHOOL INSPECTION.

IT is interesting to notice the various estimates which are put upon the office of School Inspector in States and Countries where any attention is paid to the education of the people.

In some countries, when an Inspector visits a school, he takes entire charge of teacher, pupils and programme; in other countries he comes as a visitor, taking part in the ordinary work, never interfering with the usual routine, except so far as arrangements are made by the master in charge to afford him increased facilities for in-

sight into the kind of work done in the school. In view of the fact that the master is ultimately responsible for the general well-being of the school, there is certainly an obvious objection to any one taking the control of his work, even for a limited period.

In Britain, at the present time, the question of the inspection of the secondary schools of the country is being warmly discussed; some writers advocate inspection after the manner of the Public Schools, while others are strongly opposed to this view of

the matter. The latter class contend that an Inspector should visit the schools for the purpose of reporting upon the condition of the buildings, appliances and records of the institution.

In what position is the work of inspection of the secondary schools in Ontario? Is there any other country in which the secondary schools are inspected and reported upon as they are here? In this Province a High School Inspector, by virtue of his position or by custom, is a member of the Central Board of Examiners, which controls all the examinations for Teachers' Certificates and for entrance to the High Schools. Is the plan adopted fair or wise? are the highest educational interests of the country served well by such an arrangement? or has this plan become the fruitful source of all the heart-burning complaints that appear periodically in the public press from pupils, teachers and parents?

We shall be glad to hear from our readers on the subject of the Inspection of the High Schools and Collegiate Institutes of Ontario.

THE COLLEGE OF PRECEPTORS.

THE proposal which was laid before the Ontario Teacher' Convention in August, to establish a College of Preceptors for Ontario, is now attracting a good deal of attention throughout the Province, and is being keenly and intelligently discussed at the teachers' conventions now being held. Some conventions have adopted the plan, others have done so with modifications, while in other cases, after some discussion, it has been left over for consideration and final decision till the spring. We commend this important subject to the earnest attention of our fellow-teachers, being of the opinion that the time has now

come for teachers to take the management of professional matters into their own hands. All teachers should be members of the College of Preceptors. The membership should be composed of all teachers of good moral character, and literary attainment not lower than that for third class Public School teachers. The aim is to include all engaged in teaching. There must be an entrance fee, and also a small annual charge. What shall be the relation of the Minister of Education to the College of Preceptors? is a question which is provoking a good deal of discussion. Some suggest that the Minister should be permanent president, and have a veto on the proceedings of the college; others say that he should have the veto and be a member of the council *ex-officio*. We incline to the opinion that the Minister should be a member of council *ex-officio*, and have the right to exercise the veto power so far as regards the granting of certificates to teachers. To have the Minister permanent president with the veto as well would simply be the readiest way of stopping all progress in educational affairs in our country. We must never forget that the intent of the movement is to benefit the people in their highest interests, and the masters' welfare is brought prominently forward, only because a serious error has been committed in neglecting it so long, the consequence being that the educational interests are ravelling, for the evident reason that the worker has received scant attention in the past. The advancement of education from the point at which we now are and the well-being of the teachers in every direction are inseparably bound together. A register should be kept by the Council for the College of Preceptors, in which the name and address of every teacher should be entered, and the name of every one

who receives a license of any grade to teach. In this way the teachers throughout the country would come to know each other, and to know is to feel concern for the welfare of fellow workers. By this and other means, a body of men will arise in the community who will feel it to be their duty and privilege to take the special oversight of the interests of education and of the teachers in our institutions of learning. It is an omen for good that college men and professors are taking a deep interest in, and are favourable to, this important and hopeful movement. This number of the Magazine shows what a hold the idea of the College of Preceptors has taken of our intelligent and active men.

THE MINISTRY OF TEACHERS.

WHY do I wish to teach? Why do I continue teaching? If these questions were asked our teachers, how various would the replies be! Take the first question, and ask it of those beginning their preparation to qualify themselves for the arduous work of teaching; and it will be found that while there are various shades of differences in their answers, this will be found common to all—to the complete ignoring of all other considerations—I want to make money. The reasons given are many and diverse: One to assist parents, another to support relatives, one, self support, another, in order to have money to pay for college expenses, and then enter one of the other three professions, or to gather a little money to buy a farm, or enter into trade. The questioner will observe two reasons almost invariably conspicuous by absence, viz.:

1. Teaching is an honourable calling.
2. Teaching affords great scope for good; therefore I choose it for my life work. This negligence, the obliquity of moral vision, should not be laid to the charge entirely of the be-

ginners. Parents, all parties concerned, appear to regard teaching in some thoughtless way. The aspect looked at is, What provision can be made from teaching for the necessities or the comforts of life? not, This is a good work, a responsible vocation, and if I have talent for it I will chose it for my sphere of labour for people and country. The prevailing element in the decision is of the earth, earthy. In teaching, as in all other fields of honest and honourable exertion, men and women cannot live on air; the recognition of the Master is to them as to any other labourer:—"Does God care for oxen only?" and this other, "The labourer is worthy of his hire." It may not be amiss to consider briefly how this low and sordid view has become connected with the high and important profession of teaching. Such phrases as these are quite common: We must have drawing in our schools; otherwise, we shall fail in competition with our neighbours in the production of machinery, or in beauty of artistic designs, etc., etc.; or we must have science teaching in our schools, else we shall fail to produce the many and important dyes, etc., etc., derived from a full and practical knowledge of chemistry and the allied branches of the natural sciences. It will be observed that every time this phrase is used, and it is used very often, the idea presented is a race, and that race a competition for money, a race for rapidity in acquiring material prosperity, not a word about honesty, not a suggestion as to honour, not a hint as to the effect this race is to have on the character of the young racers. The appeal is to cupidity, to ambition of a low order. These things are good in their own time and place, but there is a more excellent way. If we are not mistaken this one-sided and grovelling notion anent the special office of education has followed closely in the wake

of the idea that education is the duty of the State, and in our empire it took hold of the mind of the people most distinctly at the inauguration of the first Universal Exhibition, London, 1851.

The motto of these international exhibitions, true and safe within certain limits, seems to be. "Let the purpose of all existence be to minister to the needs, the comforts and the luxuries of the human being." Against the theory that the State should educate the child, the Church of England in England, the Church of Scotland in the Scotland, these Churches in other lands, also more or less, and most emphatically in all lands, the Roman Catholic Church protested and do protest. Generally speaking, these Churches hold the theory that it is the duty of the parent to educate the child. This is the root idea of the system of education in Great Britain, though quite recently an agitation has been started to compel the Government to give gratuitous education to each child, thus making it wholly a State duty. The effort which the Church has to make in order to remedy the primitive defect in the system of public instruction, both in Canada and the United States of America, by endeavouring to supply the moral and religious element in various ways (the most common and at the same time the most efficient being Sunday-school teaching) tends to make permanent the unnatural separation of these indissoluble parts of education. The attempt to educate the child, by the State, in what are called secular studies (whatever that

may mean), and in these alone, has been made for a longer time in the United States of America than in Canada; much to the loss both in standing and power of the teacher, and to the great, if not irreparable loss of the country. President Seelye testifies in emphatic terms, as to the unsatisfactory outcome of this gigantic effort in his country. One of the most encouraging signs of the times is the earnest and increased attention which is given by the foremost men the world over, but especially so in English-speaking communities, to the wide question of education in all its bearings on the welfare of the race. We do not claim to wear the prophetic mantle, but we venture to say that the results of the present system in Canada will be equally unsatisfactory and ruinous, as found by our co-workers in the United States of America.

We press on parents, on the Church, to emphasize much more decidedly the moral and religious aspect of the teacher's calling; the proficiency of the pupil in drawing, in science, in English, is not the be-all or end-all of the teacher's work. Let us keep this ever in mind. Recognize the oneness of the work in Sunday Schools and in Public Schools, that both classes of schools are engaged essentially in the same great undertaking, Character-building.

The responsibility of the parent for the nurture and admonition of his child, *i. e.*, for the proper up-bringing of the child, is the invariable plane under all and every system of education worthy of permission to live.

HINTS.—1. Do not worry your scholars all the year with the threat that they will probably fail to be promoted. 2. You have no right to expect that any class just promoted from a lower grade into your room will be deficient in nothing; therefore it is not wise in you to make sharp allusions to the shiftlessness of the previous teacher. 3. Consider your class a part of the school as a whole, not as your exclusive possession. 4.

Remember that what your pupils do for themselves makes the strongest impression. 5. Assign lessons suited to the capacity, not of the best, but of the average scholars. 6. Do not allow your pupils to discover that they ever annoy you. If they are noisy, you must keep cool and quiet, and speak in your lowest tones. 7. Carry out, in good faith, the methods and general regulations of your principal.—*Prof. Hall.*

SCHOOL WORK.

[For want of space we are obliged to hold over the mathematics.]

CLASSICS.

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

BRADLEY'S ARNOLD.

BY M. A.

Exercise 45.

1. Solent isti hos homines, haec instituta, hos mores vituperare, antiquitatem illam desiderare, laudibus ferre; et tu ipse haud scio an in istum errorem nonnunquam incideris.

2. Maxima est apud me reipublicæ dissensio; hi omnia, illi nihil mutari volunt; ego neque hos neque illos recte sentire crediderim.

3. Ab his ille periculis, ab his terriculis semper se invictum præstitit; vos cavete ne majoribus vestris, viris præclarissimis indigni videamini.

4. Hoc certe mihi persuasum habeo opinionem istam hujus moris vetustatis falsam esse; unde orta sit tu videris.

5. Satis notum illud Cæsaris, plurimum in bello valere Fortunam.

6. Causam jam tum dicitur voluit hic cum isto in gratiam redire; id quod brevi effecit, me invito, repugnantibus omnibus amicis.

7. Interrogantibus cur exulare quam domi suæ vivere mallet, respondit ille nondum posse se salvis legibus redire, regis mortem expectandam esse.

8. Hanc demum veram esse sapientiam dicunt, sibi imperare.

9. Meam ego existimationem pluris quam tu tuam facio, idem libertatem meam reipublicæ libertati posthabere volo.

10. Qui abhinc viginti annos ne fortissimum quidem hostem pertimui, is hodie in parum gravi periculo salutis meæ ac liberorum metuo.

11. Interrogantibus car libidini regiæ obsequi nollent, non eos esse sese responderunt qui dolorem vel periculum pertimescerent. Ab homine laudatus es, optimo illo quidem, sed harum verum imperitissimo.

Exercise 34.

1. Inter vos omnes satis constat solem luna multis partibus majorem esse. 2. Hunc ego hominem a puero notum habeo; multo

cum te et fortiolem esse et doctiorem credo.

3. Rex ipse, diem ante primam aciem pugnat capite vulneratus est; in tanta hac trepidatione et omnium pavore e certamine se recipere nolu. 4. Hac ratione civibus omnibus jure carissimus factus, ad extremam senectutem, nomine privatus civis, re patriæ, pæne pærens pervenit.

5. Quod scelus tuo statim sanguine luendum est; facinora etiam ista hac luce clariora sunt ac manifestiora, nec potest fieri ut civis quisquam tibi ignotum velit.

6. Mihi, inquit, vos omnes nomine esse milites, re vera transfugæ ac latrones videmini.

7. Multo jam acrius pugnabatur, a sinistro cornu nostri, lassitudine deficiebant; dux ipse altero saucius brachio primus hoc sensit.

8. Potuistis paullo ante bellum pace mutare; sero vos erroris hodie pœnitet.

9. Saluti vestræ heri diffidebam; sed res expectatione mea multo melius evenit.

10. Quanto melius fuit in tali tempore omnia reipublicæ (or communi salute) inferiora ducere.

MODERN LANGUAGES.

Editors: { H. I. STRANG, B.A., Goderich.
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EXERCISES IN ENGLISH.

1. Substitute single words, if possible, for the italicized phrases and clauses:

(a) He answered *without any hesitation*.

(b) He would persist *in spite of* our entreaties.

(c) They have accepted the offer *which I made them*.

(d) He bore a reputation *without stain*.

(e) He made several attempts *that did not succeed*.

(f) This fact seems to have been *lost sight of* by them.

(g) It is one of the characteristics of the age *in which we live*.

(h) He left the house *with the determination* never to return.

(i) An event occurred *a short time ago*.

(j) Contrary to *what was expected* he escaped unhurt.

2. Expand the following simple sentences to compound or complex :

(a) He was afraid of offending them.

(b) Possibly you may find some left.

(c) He questions the wisdom of their cause.

(d) Has any one tried the plan spoken of by Mr. A. ?

(e) Opening the door, he called out to the boys.

(f) The proposal to divide the money equally seems fair.

(g) Not having received notice, he did not attend the meeting.

(h) The question to be considered is how to prevent it.

(i) He was evidently not aware of the fact.

(j) Being informed of his approach they decided to retreat.

3. Supply the ellipsis in each of the following.

(a) I love thee more than life.

(b) Never did I feel the benefit of it more than then.

(c) It isn't so dark as when we started.

(d) I remember the day he arrived.

(e) It is better to do that than to be idle.

(f) It would have been difficult, though not impossible, to prove it.

(g) I shall not use it unless forced to do so.

(h) I scarcely ever see him except on Sunday.

4. Change from direct to indirect narrative :

"I beg to inform your lordship," said he, in his answer to the Lord Mayor, "that the port of Toulon has never been blockaded by me. On the contrary every opportunity has been offered the enemy to put to sea, for it is there we hope to realize the hopes and expectations of our country."

5. Change from indirect to direct :

To the British ambassador he said that he was ready to make large allowances for the miserable situation in which Spain had placed herself, but there was a certain line

beyond which he could not and would not submit to be treated with disrespect.

6. Change the voice of the verbs in the following :

(a) No one had noticed his departure.

(b) He issued orders to arrest all strangers.

(c) He was taken to task for it by the chairman.

(d) They found fault with us for not doing it.

(e) They all agreed to the plan he proposed.

7. Change (1) from affirmative to negative :

(a) He went to see the show.

(b) He knows no one in the room.

(2) From negative to affirmative :

(a) I did not see any mistake in it.

(b) He never comes to see us.

(3) From declaratory to interrogative :

(a) She lives with her uncle.

(b) He answered all the questions.

(4) From interrogative to declaratory :

(a) Does he go to school regularly ?

(b) Did he see the prospectus ?

8. Express each of the following in at least two other ways, changing the language and construction as much as possible.

(a) Deprived of air, no animal would live, no plant would grow.

(b) The condition of the present inhabitants of Britain is very different from that of their forefathers.

(c) Iron is more widely diffused throughout the crust of the earth than any other metal.

9. Re-write in prose, in your own words as far as possible :

A hunter once who courage lacked,
To the hill forests dense his game had tracked ;
A woodman near a tall fir met his view,
Whom by the nymphs he prayed, if aught
he knew,

To point the wild beasts' steps that harboured near.

The other said, "Good luck has brought you here !

The lion's self to you I'll quickly show."

Pale and with chattering teeth, he cried,
"No, no !

Pray don't oblige me, friend, beyond your task !

To see the lion's track, not him, I ask."

10. Combine each of the following groups into a single sentence :

(a) She folded the letter. She directed it. She did so in haste. She then went to a drawer. She made up a small package of clothing. This was for her boy. She tied it to her waist with a handkerchief.

(b) The forest is now almost dark. The foliage overhead is very dense. Consequently the moon penetrates through it in only a few places. It falls on a few spots. It causes these to shine with a strange silvery light. This renders surrounding objects darker by contrast.

11. Divide the following sentences into clauses (supplying the necessary ellipses) and tell the grammatical value and relation of each :

(a) If, *early* on a summer morning, *before* the smoke of countless fires had narrowed the horizon, a spectator should ascend to the top of St. Paul's, and *take* his stand on the balcony *that* with gilded rail flashes *like* a fringe of fire *on* the summit of the dome, he would see *sleeping* beneath his feet the greatest *camp* of men *upon* which the sun *has* ever risen.

(b) *After* a day of cloud, and wind, and rain, *Sometimes* the setting sun breaks *out* again ; And, *touching* all the darksome woods *with* light, Smiles on the fields, until they laugh and sing, Then, *like* a *ruby* from the horizon's ring, *Drops* down into the night.

12. Parse the italicized words in 11.

13. Into what different parts may the first clause of (b) in 11 be divided? Explain what you mean by the name you give to each part.

14. Give examples to show what different grammatical values the following words may have—*fast, square, living, as, that*.

15. Explain clearly what you mean by "part of speech," "a finite verb," "prepositions govern the objective."

16. Analyse the following simple sentences, and parse the italicized words.

(a) *In* our isle's enchanted hall
Hands *unseen* thy couch *are* *strewing*.

(b) *From* each projecting cape
And perilous *reef* *along* the ocean's
verge,
Starts into life a dim, gigantic *shape*,
Holding its lantern *o'er* the restless
surge.

(c) *Alarmed* by these reports, and *fearing* an attack on the *following* day, the gallant little garrison, *after* *destroying* the supplies, *abandoned* the fort *during* the night.

17. Form (a) nouns from solid, resist, combine, simple, describe, deep, elegant, child, judge, deficient, combat, king.

(b) adjectives from accident, trouble, hero, respect, speech, defy, contradict, peril, mind, province, station.

(c) verbs from large, turn, beauty, dark, civil, understand, courage, accent.

18. Correct errors, giving your reasons, in the following :

(a) We have only had two letters from her since she has gone to Toronto.

(b) I don't believe that any one but you and I have got the right answer.

(c) She don't seem to care who the children associate with.

(d) I meant to have asked her to call for it.

(e) I haven't been to the office yet.

(f) Who do you think they seen in London?

(g) They asked us to come and stop with them.

(h) I would send John if I wasn't afraid of him losing his way.

(i) I won't be sorry when the exhibition is over.

(j) Neither Mary or Ellen were at the party.

(k) He was too scared to go any further.

(l) Was you one of the girls that was kept in for history?

THE CLASS-ROOM.

ARITHMETICAL PROBLEMS.

By Leo. B. Davidson, Head Master, Public School, Sault Ste. Marie.

1. The L. C. M. of 459 and another number is 8,721. The H. C. F. of the same numbers is 27. Find the number.

2. The product of two numbers is 1,014 ; the L. C. M. of the numbers is 78. Find (a) the G. C. M. of the numbers ; (b) The numbers. *Ans.* (a) 13 ; (b) 26, 39.

3. When 522 is taken from the dividend the quotient becomes 178. When 348 is added to the dividend the quotient becomes 183. Find the dividend. *Ans.* 31,494.

4. A turnkey hired with a jailor for a year and was to receive \$364 with a house. He left the service of the jailor at the end of 9 months upon receiving \$264 and the house for the full time. Find the rent of the house per month. *Ans.* \$3.

5. A merchant marks his goods at an advance of $\frac{1}{3}$ on cost, but he allows a customer $\frac{1}{5}$ off his bill as discount. The customer, however, fails, and pays only $62\frac{1}{2}$ cents on \$1. The merchant thus falls short of his marked price by \$7. Find the cost of the goods. *Ans.* \$12.

6. A farmer has money enough to buy 10 bushels of wheat @ \$1.12 per bushel ; but he decides to spend his money in buying a certain number of bushels of wheat, and one-third as many bushels of oats at one-third as much per bushel. How many more bushels of grain does he get by this latter plan ? *Ans.* 2 bushels.

8. A steamer runs at the rate of 13 miles per hour in still water. It goes down a river a certain distance and up again in two hours, spending 3 minutes in making the turn. If the river runs at the rate of 3 miles per hour find the distance to the turning point. *Ans.* 12 miles.

8. A man has invested in one company \$2500 @ a certain rate %, and \$475 less in another company @ 1% less than the former rate. His whole income is \$341.75. Find the rates. *Ans.* 8%, 7%.

9. A room, which is 20 ft. long and 15 ft. wide, contains $101\frac{1}{2}$ tons of ice. If ice be $\frac{1}{5}$ lighter than water, of which 1 cub. ft. weighs 1,000 oz. Avoir., find the height of the room. *Ans.* 12 ft.

10. There are two fields each containing $22\frac{1}{2}$ acres, the one in the form of a square, the other in the form of a rectangle whose

length is $3\frac{1}{2}$ times its breadth. Find the difference in the cost of fencing the fields @ \$2.50 per rod. *Ans.* \$50.

EDUCATION DEPARTMENT,
ONTARIO.

JULY EXAMINATIONS, 1880.

First Class Teachers—Grade C.

ENGLISH GRAMMAR.

Examiner.—J. F. White.

NOTE.—80 per cent. will form a full paper, but special importance will be attached to the answering of 1, 6, 8, 10. The literary form of the answers will be considered.

1. That *day* Sir Lancelot at the palace craved Audience of Guinevere, *to give* at last The price of half a realm, his costly gift, *Hard-won* and hardly won with bruise and blow,
With deaths of others, and almost his own,
The nine-years-fought-for diamonds ; for he saw
One of her house, and sent him to the Queen
Bearing his wish, *whereto* the Queen agreed
With such and so unmoved a majesty
She might have seem'd her statue, but that he,
Low-drooping till he well nigh kiss'd her feet
For loyal awe, saw with a sidelong eye
The shadow of a piece of pointed lace,
In the Queen's shadow, *vibrate* on the walls,
And parted, *laughing* in his courtly heart.
All in an oriel on the summer side,
Vine-clad, of Arthur's palace *toward* the stream,
They met, and Lancelot kneeling utter'd,
"Queen,
Lady, my liege, in whom I have my joy,
Take, what I had not won except for you,
These jewels, and make me happy, making them
An armet for the roundest arm on earth,
Or necklace for a neck to which the swan's
Is tawnier than her cygnet's."
- (a) Divide into propositions, showing their kind and relation, l. 10 to end.
(b) State the relation and part of speech of the words in italics.
(c) Give clearly the relation and function of the following phrases :—" At the palace " ;

"almost his own"; "in the Queen's shadow"; "except for you"; "on earth"; "to which the swan's."

(d) Show the difference between "hard-won" and "hardly won," l. 4; why "deaths," l. 5? Write note on compound word, l. 6; compare meanings of "for" in ll. 6 and 12; classify "summer side," "sidelong eye."

2. Give the meaning and history of the remaining endings of the personal and demonstrative pronouns.

What is the difference as to number between $\left. \begin{array}{l} I \text{ and} \\ we \end{array} \right\} \begin{array}{l} \text{man} \\ \text{men?} \end{array}$

3. State concisely your views on each of the following:—

(a) "The verb need not, and generally does not agree with its nominative case (subject) in person and number."

(b) "English may almost be said to have no distinctive parts of speech."

(c) "Conjunctions do not necessarily connect the same moods and tenses of verbs."

(d) "Once English had three genders, but as it now is, if we except one or two words, it has none."

4. Account for the peculiarities of pronunciation or of orthography in these words:—cupboard, gossip, receive, debt, frontispiece, island, could, who, clerk, pea, parliament.

5. Write brief notes, with illustrations, on:—

(a) The conveniences of the passive construction,

(b) The unnecessary use of the feminine gender,

(c) The use or the omission of the article,

(d) The distinctions gained in using the subjunctive mood, and the "tendency" in regard to this form.

6. How is it that in English there are strong and weak preterites, and that in certain verbs the two forms exist? In this connection remark upon the following:—did, was, taught, hight, should, had, led, went, put.

7. State your views as to the desirability of a spelling reform in English, and of the extent to which it should be carried. Illustrate your answer.

8. (a) Write brief notes on the structure of the following words:—direful, reliable, preventative, talented, speciality, education-alist.

(b) Contrast the past and the present meanings of influence, pagan, religion, tribulation, sacrament, acre, caprice, treacle. Explain how these changes were brought about.

10. Correct, with reasons, the following sentences:—

Whenever education is logical in its methods, the smallest interference is like a stone thrown into a machine.

They here began to breathe a delicious kind of ether, and saw all the fields about them covered with a kind of purple light, that made them reflect with satisfaction on their past toils.

The actual deprivation of freedom is a sentimental luxury with which the negro can easily dispense.

He always preferred to have his own views sustained by the failure of his opponents' argument than by the success of his own.

After the delivery of this speech, which, being translated by M. de Stael, was read with admiration not only in England but on the continent.

The mooted of this question will form a fertile plain for military critics to exercise their hobbies on for many years to come.

ENGLISH COMPOSITION.

Examiner—J. E. Hodgson, M.A.

1. Fortune is like the market, where, many times, if you can stay a little, the price will fall; and again, it is sometimes like Sibylla's offer, which at first offereth the commodity at full, then consumeth part and part, and still holdeth up the price; for occasion (as it is in the common verse) turneth a bald noddle after she hath presented her locks in front, and no hold taken; or, at least, turneth the handle of the bottle first to be received, and after the bel'y, which is hard to clasp. There is surely no greater wisdom than well to time the beginnings and onsets of things. Dangers are no more

light, if they once seem light; and more dangers have deceived men than forced: nay, it were better to meet some dangers half way, though they come nothing near, than to keep too long a watch upon their approaches: for if a man watch too long it is odds he will fall asleep. On the other side, to be deceived with too long shadows (as some have been when the moon was low, and shone on their enemies' backs), and so shoot off before the time, or to teach dangers to come on, by over-early buckling towards them, is another extreme. The ripeness or unripeness of the occasion (as we said) must ever be well weighed; and generally it is good to commit the beginnings of all great actions to Argus with his hundred eyes, and the ends to Briareus with his hundred hands—first to watch, and then to speed; for the helmet of Pluto, which maketh the politic man go invisible, is secrecy in the council, and celerity in the execution; for when things are once come to the execution, there is no secrecy comparable to celerity—like the motion of the bullet in the air, which flieth so swift as it outruns the eye.

Give the substance of this essay in your own words.

2. Turn the following dialogue into narrative.

Callicles. The wise man, as the proverb says, is late for a fray but not for a feast.

Socrates. And are we late for a feast?

Callicles. Yes, and a delightful feast; for Gorgias has been just exhibiting to us many fine things.

Socrates. I must throw the blame, Callicles, on my friend Chaerephon here, who would keep us loitering in the Agora.

Chaerephon. Never mind, Socrates,—the misfortune of which I have been the cause I will also repair; for Gorgias is a friend of mine, and I will make him repeat the exhibition either now or at some future time.

Callicles. What is the matter, Chaerephon—does Socrates want to hear Gorgias?

Chaerephon. Yes, that was our intention in coming.

Callicles. Suppose, then, that you proceed to my house; for Gorgias is staying with me, and he shall exhibit to you.

Socrates. Very good, Callicles; but will he answer our questions? for I want to hear from him what is the nature of his art, and what this is which he professes and teaches; he may defer the exhibition, as you suggest, to another time.

Callicles. There is nothing like asking him, Socrates; and indeed this is a part of his exhibition, for he was saying only just now, that any one in my house might ask him anything, and that he would answer.

Socrates. I am glad to hear that: will you ask him, Chaerephon?

Chaerephon. What shall I ask him?

Socrates. Ask him who he is.

Chaerephon. What do you mean?

Socrates. I mean such a question as would elicit from him, if he had been a maker of shoes, the answer that he is a cobbler. Do you understand?

3. Describe the scene of Warren Hastings' impeachment, mentioning some of the more interesting incidents.

ENGLISH LITERATURE.

Coleridge and Macaulay.

Examiner—J. E. Hodgson, M.A.

NOTE.—Special importance will be attached to the answering of III. and VI.

1. Who were the Lake Poets, and why were they so called? What are the distinguishing features of their poetry, and with what school of poetry are they in contrast?

2. Account for the fact that Coleridge's poetry was for so many years unpopular?

3. O great Bard!
Ere yet that last strain dying awed the air,

In the same coffin, for the self-same grave!

(1) Explain "last strain," "viewed thee in the choir of ever-enduring men," "the truly great have all one age," "makes audible a linked lay of Truth."

"And fears self-willed that shunned the eye of hope;

And hope that scarce would know itself from fear."

(2) Point out the force and propriety of the epithets in:—"Gradual fame," "natural notes," "heart forlorn," "babe turbulent," "wood-walks wild."

(3) Account for the iteration, in the thirteenth line, of an idea contained in the preceding line.

(4) Illustrate from this extract Coleridge's aptness in the use of metaphor and simile.

(5) Develop the personal allusions contained in the last seven lines.

4. Contrast the poem from which the extract is taken with the *Ancient Mariner*, with regard to (a) subject, (b) treatment; show the propriety of the latter in each case.

5. It has been said of the essay on Warren Hastings that, whilst it purports to be a judicial summing up, it is really a special plea.

Discuss this statement, supporting your views by references to the subject-matter of the essay.

6. Hastings, it is clear, was not sensible of the danger of his position . . . and it was chiefly by his own errors that he was brought to the verge of ruin.

(1) Give in as few words as possible the substance of this paragraph.

(2) In what relation does the first sentence of this paragraph stand to the remainder?

(3) Distinguish: sagacity, judgment; repel, repulse; talent, genius; novelty, innovation.

(4) Explain the allusions to Francis, the Chief Justice, Hyder Ali.

(5) "But an oak . . . at fifty."

What is gained by throwing in this statement.

(6) "He has much both to learn and to unlearn." Explain.

(7) "He would have been much bewildered . . . Trafalgar."

Point out the full force of this comparison.

(8) "His very acuteness deludes him. His very vigour causes him to stumble." How?

(9) Point out as clearly as you can the prominent characteristics of Macaulay's style, as exemplified in this extract.

The Merchant of Venice.

Examiner—John Seath, B.A.

1. Discuss the following statement, illustrating each point in your answer by reference to the play:

"In the character of Shylock, strong national traits are interwoven with personal traits equally strong."

2. The quality of mercy is not strained;

And that same prayer doth teach us all
to render
The deeds of mercy.

(a) Give the exact meaning of "quality" and "strained," l. 1; "is blessed," l. 3; "shows," l. 7; "the attribute . . . kings," ll. 8 and 9; "seasons," l. 14; and "to render the deeds of mercy," ll. 18 and 19.

(b) Explain, "It droppeth . . . beneath," ll. 2 and 3, by developing the force of "droppeth," "as the gentle rain," "from heaven," and "Upon the place beneath."

(c) Develop the truth of l. 4.

(d) Explain clearly the different points of the contrast indicated by "But," l. 10.

(e) Comment on the propriety of "we do pray . . . mercy," ll. 17-19, as addressed to Shylock.

(f) Why does Portia use the plea contained in the above passage, when she knows she may avail herself of the legal quibble? Show the bearing of your answer on your estimate of her character.

(g) Explain as fully as possible how this passage should be read.

3 *Lorenzo:*

How sweet the moonlight sleeps upon this bank!
Doth grossly close it in, we cannot hear it.

Jessica:

I am never merry when I hear sweet music.

(a) Give the force of each of the figures of speech.

(b) Explain and comment on the doctrine enunciated in ll. 7-12, illustrating your answer by quotations of parallel passages.

(c) Quote or give the substance of Lorenzo's explanation of Jessica's disposition. Criticise it briefly.

(d) Explain the dramatic propriety of the scene to which the above passage belongs, and its bearing upon your estimate of the characters of Lorenzo and Jessica.

4. Show as fully as possible how the poet has harmonized the language with the thoughts in the passages in 3 and 4 above.

5. "Portia's reflections, arising from the most usual aspects of nature, and from the commonest incidents of life, are in such a poetic spirit, and are at the same time so pointed, so profound, that they have passed into a familiar and daily application with all the force of proverbs."

Illustrate this statement by quotations, as fully as time will permit.

GEOGRAPHY.

Examiner—J. J. Tilley.

NOTE.—Only 6 questions are to be taken; but of these the first and the ninth must be two.

1. Give the great physical divisions of North America and speak of their influence upon (i.) climate, (ii.) animal and vegetable productions (iii.) human industries.

2. (i.) Discuss the origin and development of prairies. (ii.) Compare the Great Central Plain of North America with the Great Northern Plain of Europe and Asia.

3. Account for the great rainfall in the Torrid Zone, and for the small amount of rain which falls in Arizona, Utah and the other portions of the United States lying along the eastern part of the Rocky Mountains.

4. (i.) Describe the constant, and the principal periodical winds which blow over the earth's surface. (ii.) Account for the zone of calms, and give its boundaries at different times.

5. Give geographical reasons for the commercial importance of Montreal, Buffalo, Chicago, New York, New Orleans, San Francisco, London, Liverpool, Glasgow, Hamburg.

6. Name four of the great commercial emporiums, (i.) of Continental Europe, (ii.) of Asia, (iii.) of North America, (iv.) of South America, and speak of the exports from each.

7. Where are the following, and with what events are they associated in history?

Rochelle, Placentia, Geneva, Rhims, Stratford-on-Avon, Atlanta, Plassey, Westphalia, Nantes, Aix-la-Chapelle.

8. Draw an outline map of the Peloponnesus, showing the principal mountain ranges and river basins; and explain in what respects the following cities owed their importance to their situation:—Corinthus, Sparta, Mycenæ.

9. Name the possessions of Great Britain in Europe, in Asia and in Africa, and speak of the commerce which she carries on with the principal of these.

ENGLISH HISTORY.

Examiner—Jas. F. White.

Not more than six questions are to be answered.

1. Describe the policy pursued towards Scotland by Charles I., its objects and its results.

2. Through what causes was the influence of parliament developed in the reigns of James I. and his successor?

3. Describe the condition of the country at the accession of James II.

4. What were the causes of the great literary activity of the Elizabethan period? Give some account of the works of Spenser, Bacon, Ben Jonson?

5. Show clearly the objects and the results of the foreign policy of Charles II.

6. What was the condition of Ireland under the Stuart rule?

7. Give an account of the origin and purpose of the Territory Bill, Act of Grace, Petition of Right, Triennial Bill, Solemn League and Covenant.

8. In the Act of Settlement what limitations were put to the Royal Prerogative? Show what need existed for such limitations.

9. "If Strafford embodied the spirit of tyranny, John Pym stands out for all time as the embodiment of law."—Green.

Fully explain this statement.

We are requested to say that it is the intention of the Education Department not to submit a formal paper in Orthoëpy at the next entrance examination to the High Schools and

Collegiate Institutes. The examiner in Oral Reading, however, will be asked to consider carefully the pronunciation of the candidates.

CONTEMPORARY LITERATURE.

- Rivingtons, Waterloo Place, London.
- STORIES OF GREEK HEROES. By Niebuhr. Arranged as a First Reading-book, with Notes and Vocabulary. By A. R. Lechner, Senio Master of Modern Languages, Modern School, Bedford. pp. 100. 2s.
- AUS DEM STAAT FRIEDRICH'S DES GROSSEN. Von Gustav Freytag. Edited with Notes. By Herman Hager, Ph. D. (Lips.), Lecturer in the German Language and Literature in the Owens College, Victoria University, Manchester. pp. 113. 2s.
- TRIPERTITA. Second series. A course of Easy Latin Exercises for Preparatory Schools. Arranged to suit the Threefold Division of the Year. By Frederick T. Holden, M.A., late of Emmanuel College, Cambridge. pp. 251. 3s.
- THE METHODS OF GLASS BLOWING. For the use of Physical and Chemical Students, By W. A. Stonenstone, Lecturer on Chemistry in Clifton College. pp. 86. 1s. 6d.
- FRENCH PASSAGES FOR TRANSLATION AT SIGHT. With grammatical questions on each passage. By William H. Harris, University of London. Rivingtons, London, 1886. pp. 100.
- EASY FRENCH PIECES FOR UNSEEN TRANSLATION. Adapted for the middle and lower forms of Public Schools. Selected and arranged by W. D. Russell, M.A., Assistant Master at Haileybury College. Rivingtons, London, 1886. pp. 168.
- CAMPAGNE DE RUSSIE EN 1812. Par M. le duc Fezensac. With notes. Edited by Granville Sharp, M.A., Assistant Master at Marlborough College. Rivingtons, London, 1886. pp. 158.
- The first of these little books contains fifty short extracts from French authors, each extract followed by questions on the text. It will be useful for testing the progress of pupils, and in preparing matriculation candidates in honors.
- The selections in the second of the above are all short, and really easy. Words which are more or less unusual to the English learner are given in foot-notes. The "Campagne de Russie" would be very suitable for an advanced reading-book, and will be found very pleasant and instructive for any one who has not read it. Mr. Sharp's edition is supplied with notes, chiefly historical, two appendices and a map.
- EASY GERMAN STORIES. A First Reading Book. By B. Townso B.A., Assistant Master at the High School, Nottingham, late scholar of Trinity College, Cambridge. Rivingtons, London, 1886. pp. 207.
- A collection of 116 short stories in prose forming a series of reading lessons at once easy and progressive. The selections are from the best authors; short notes are given on each little piece, and the whole followed by a vocabulary.
- SCHILLER'S WILHELM TELL. Edited by J. L. Bevir, M.A., Assistant Master at Wellington College. Rivingtons, London, 1886. pp. 188.
- The text is in clear large type, and the notes are good and not too numerous. The book seems to be intended for pupils just beginning to translate, the stage-directions being all rendered into English. This, while an encouragement to the beginner, would perhaps lessen its value for those who study it for examination.
- ENGLISH GRAMMAR AND ANALYSIS. By F. Ritchie, M.A. pp. 215. 2s. 6d. London: Rivingtons.
- The most satisfactory text-book on this subject which we have had the pleasure of examining for several years. The Chapters on Syntax, Forms of Speech, etc., with the accompanying examples, are especially good.
- YOUNG PEOPLE'S HISTORY OF ENGLAND. By George Makepeace Towle. Boston: Lee & Shepard. pp. 390.
- Mr. Towle, who is the author of numerous historical works, has added yet another which will bear comparison with the best. Here one may find the modesty, the impartiality, the enthusiasm and the freshness of the true historian. The author is perhaps most successful in his treatment of the life and progress of the people—the origin and growth of our great institutions, etc.

EXERCISES IN FALSE SYNTAX. By H. I. Strang, B.A., Head Master, Goderich High School. Toronto: The Copp, Clark Co., Limited.

This is the fifth edition of this excellent manual, nearly two hundred and fifty new examples having been added, the arrangement and price remaining the same. We congratulate the editor and publishers upon its well-merited success.

HANDBOOK OF ZOOLOGY. By Sir J. W. Dawson, LL.D., F.R.S., etc. Montreal: Dawson Brothers.

A third Edition of Sir Wm. Dawson's useful book is now issued, and it would be hard to say whether it is best fitted for the (intelligent) summer tourist, the boy with a fancy for fossils and animals, or the science student. It is convenient in shape and size, and amply illustrated.

PHYSICAL CULTURE. By E. B. Houghton. Toronto: Warwick & Sons. pp. 277. 50 cents.

We think this little book, which has already been favourably spoken of by the local press, and by a number of teachers and medical men, will be found of service in our schools. A large number of exercises, etc., are fully described.

MONOGRAPHS ON EDUCATION. No. 1. Modern Petrography, or the Application of the Microscope to the Study of Geology. By Prof. Williams, of the Johns Hopkins University. Boston: D. C. Heath & Co.

STUDIES IN GREEK AND ROMAN HISTORY. By Prof. Mary Sheldon, of Wellesley College. Boston: D. C. Heath & Co.

"Studies in General History" has met with the enthusiastic reception which it deserved, and many students will be glad that the publishers, in the present volume, have republished separately that part of it which treats of the history of Greece and Rome.

THE BIBLIOGRAPHY OF EDUCATION. By G. Stanley Hall and John M. Mansfield. Ibid. pp. 300.

A large amount of valuable information in regard to works on education is here arranged by topics, and conveniently indexed, thus being rendered available for teachers and librarians.

INTERMEDIATE PROBLEMS IN ARITHMETIC for Junior Classes. Containing more than two thousand problems in Fractions, Reduction and Decimals. By Emma A. Welch, of Montgomery School, Syracuse. Syracuse: C. W. Bardeen.

SHELDON'S WORD STUDIES. Containing Graded Lessons in the Orthography of Words and their Correct Use in Sentences. New York: Sheldon & Co.

HANDY HELPS. No. 1. A Manual of Curious and Interesting Information. By Albert P. Southwick, A.M. New York: E. L. Kellogg & Co. \$1.00. To teachers, 80 cents, and postage, 8 cents.

SCHOOL DEVICES. A Book of "Ways" and Suggestions for Teachers. By Edward R. Shaw and Webb Donnell. New York: E. L. Kellogg & Co. \$1.25. To teachers, \$1.00, 10 cents for postage.

We ask the attention of all our subscribers to our clubbing list for 1887.

An important law-suit has recently been decided in favour of *Harper's Weekly*.

The *Living Age* continues to present, in a convenient form, the best of the current literature of the day, and becomes more necessary every year.

The October *Atlantic*, which is strong in fiction and graceful verse, brings the conclusion of Mr. Henry James' serial.

The *Overland* for October contains a sketch of the life of "Snow-shoe Thompson," the heroic mail-carrier of the Sierras.

The October *Wife Awake*, contributed to by Charles R. Talbot, Edith M. Thomas, Susan Coolidge, and many others, is a fine number, and timely. Ballads, good stories, and articles of merit, with many illustrations, fill the pages of this favourite magazine for young people.

MR. LATHROP, the eminent critic, contributes the leading article to the November *Harper*. "Hallowe'en," "The U. S. Marine Service," "The Cow Boy," are the titles of three other articles, all richly illustrated. The curtains are drawn upon Mr. Warner's charming story.

The fifth and sixth numbers of the *Academy* maintain the high standard reached by its first issue. Our contemporary has our very best wishes.

Dorcas, a magazine for the ladies, needs only to be seen in order to be highly appreciated by them. It is filled with descriptions and hints about useful fancy work of all kinds, and its appearance is neat and pleasing. We cordially commend it.

DR. JOHN S. NEWBERRY, the distinguished Professor of Geology in Columbia College, will open the November number of the *Popular Science Monthly* with the story of the great ancient ice-sheet which once covered half our continent, and which, more than any other single cause, gave to it its present surface configuration. Another important article is that by Dr. B. W. Richardson, on "The Hygienic Treatment of Consumption."

In the *Youth's Companion* for October 21 we find the names of the winners of the nine prizes offered by that paper for stories.

The total amount offered was \$5,000, and there were received five thousand six hundred stories. Among the names of those who were successful, we are glad to see that of Dr. Chas. G. D. Roberts, of Nova Scotia. The *Companion* is deservedly and increasingly popular.

THE *Sunday Magazine* and *Good Words*, published by Isbister & Co., are well known in Canada, and have long been prized as good family magazines for Sunday and general reading. We should be greatly pleased to see a special agency established in this country to further their interests, because we are convinced that every copy read is influential for good. Along with the editors are associated such well-known and reliable writers as Canon Farrar, Sarah Doudney, L. T. Meade, Rev. J. G. Wood, Mrs. Craik, Geo. MacDonald, and many others.

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WE are grateful to the kind friends of THE

MONTHLY who have, from many different places, sent us letters of approval and appreciation. If golden words were current coin, our esteemed treasurer would be able to declare a handsome dividend, and while we are much encouraged by the frequent assurances that THE MONTHLY is fulfilling a noble mission, we would respectfully ask our good friends to forward their subscriptions, as, though one dollar is a small amount, yet when a large number are delinquent in this small sum at one time, the effect is somewhat hurtful to the position of an educational journal, depending chiefly, as THE MONTHLY does, upon the support of the profession.

The best educational journal is the teacher's best friend, and we ask you, gentle reader, to aid in securing new subscribers for this educational journal, and to help the editors in getting original contributions for its columns, thus making it more and more the best.

Bound copies of this Magazine in cloth may be had from Williamson & Co., or from James Bain & Son, King Street, Toronto, for \$1.50 per copy.