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THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL MAGAZINE.

DECEMBER, 1888.

SOME ANTECEDENTS OF MONTREAL.*

BY SIR WILLIAM DAWSON.

[Specially revised for THE MONTHLY.]

SIR WILLIAM said that, though not connected with the special subjects of the intended classes, his subject this evening was sufficiently general to form an introduction to any studies which might be entered upon. His object was point out some of the antecedent conditions of the locality where Montreal now stands. He would not go back to those earlier conditions of the earth in which what is now Canada was not separated or differentiated from other parts of the forming crust of our young planet. He would take them only a comparatively short distance in geological time, to that Silurian period when what is now the site of Montreal was an ocean tenanted by shell fish and corals, now extinct, and whose remains are found in our limestone, the Trenton limestone, so that we build our houses of what was once coral sand.

Specimens and a drawing of a magnified slice of the limestone were exhibited in illustration of this. In that age Montreal mountain and its companions—Belœil, Boucherville, Jackson and Yamaska—were active volcanoes like some of those now in the Pacific, ejecting lava, ashes and scorïæ, and surrounded by coral reefs.

These old volcanoes have long since become extinct, and they have been subject to so many immersions and re-emergences, and to so long continued action of the rains and frosts that all their superficial portions have been removed, and only their deeper parts remain, as hard masses of old volcanic material. (Specimens of the igneous rock of the mountain were handed round.) These hard black and gray crystalline rocks of our mountain represent the deep-seated lava cooled far underground, and since exposed, and the agglomerate or breccia of St. Helen's Island is a remnant of the loose fragmental matter once ejected from its crater, and

* A lecture delivered at the opening of the winter classes of the Young Men's Christian Association of Montreal.

of which the greater part has been washed away. (Here a blackboard drawing was made of the old volcano, and as much of this rubbed off, as would reduce it to its present state.) If at that time man had been on the earth, and we had climbed the shaking sides of Montreal mountain, and looked out from the rim of its crater, still ejecting hot vapours, our view would have been over a blue sea with other smoking hills in the distance, and we could scarcely have imagined the green fields and orchards of our present plains and mountain sides. After this time of igneous and marine activity long geological ages elapsed, in which this region seems for the most part to have been a part of the land, and little change was going on except the slow crumbling of rock into soil. From deposits in other parts of America we know that the site of our city may have been occupied with the strange old-fashioned trees of the coal period, and at later times may have been the home of the giant reptiles of the mesozoic age, and of the great unwieldy beasts of the early tertiary, but of these no remains have been found here.

At a still later date Canada shared in the great submergence and ice-drift of the glacial period. For a long time the St. Lawrence valley was in a condition not dissimilar to that of Davis Strait at present, while the hills were covered with snow and glaciers. In this time were formed the boulder clay, the brick clay and the superficial sand which now cover the lower terraces of Montreal mountain, and the flat country at its base. We can find in the openings made in our streets, marine shells, of the same species with those still living in the colder waters of the Gulf of St. Lawrence and on the Labrador coast. (Specimens of these were handed round.) The glacial age passed away; the land was again clothed with for-

ests, and was inhabited by the mammoth and mastodon and other great animals now extinct. This was the antediluvian period, and whether antediluvian man had then penetrated to Canada we do not know, though there is good evidence of his existence in Europe and Asia, and some indication that he had made his way to parts of America further south. Nor have we any certain facts as to the first peopling of our country in post-diluvian times, after the mammoth and his contemporaries had passed away. Our first picture of geologically modern Canada and of the site of Montreal is that given by the Breton navigator, Jacques Cartier, in his visit to Hochelaga, the predecessor of our fair city, in 1534. He ascended the St. Lawrence in his boats and occupied thirteen days in a voyage which is now performed in as many hours. Landing at the foot of the current on what is now called Hochelaga, he was conducted by the natives to their town, situated at the foot of the mountain on the sandy terrace along which the western part of Sherbrooke Street now runs. Reference was then made to the friendly and pleasant nature of the intercourse of Cartier with the Hochelagans, as reported in his narrative, and to their arts and manners, as illustrated by the remains found on the site of their village, as well as to their entire destruction, shortly after Cartier's visit, by their Indian enemies, so that when Montreal was founded a century later by Maisonneuve, the island was found deserted and the old site of Hochelaga overgrown with trees. Finally, it was remarked that though the old natives were prone to think of the past and the young to look forward to the future, it is well for young men to have some intelligent knowledge of the processes by which God has prepared the way for us, and to realize our own responsibility for the best and highest uses

of what He has given to us. That responsibility belongs largely to those who are the men of the future, and they will best fit themselves for the

credible discharge of duty by availing themselves of all opportunities of mental improvement within their reach.—*Montreal Gazette Report.*

UNIVERSITY COLLEGE.

PRESIDENT SIR DANIEL WILSON'S ADDRESS.

(Continued from page 342.)

WHEN I entered on my duties here, thirty-six years ago the university, had scarcely begun to realize any direct relations between it and the grammar schools of the country. Upper Canada College was alone looked to as the preparatory training institution for the university. The revolution is a notable one which has replaced that system by one the fruits of which are seen in the annual competition of the collegiate institutes and high schools of the Province at the university matriculation examinations. It began when honour men of our own training, one after another, succeeded to vacant masterships and entered into competition with Upper Canada College in preparing students for the university; but it is due to the present Minister of Education to accredit him with the systematic aim of bringing the studies and teaching of the schools into harmony with the prescribed university requirements, and so more clearly assigning to this university its true place as the crowning feature in the national system of education, in which the people of Ontario feel so just a pride. The masters of our high schools are now represented on the University Senate; and the matriculation requirements have been modified to meet their wishes. The result is a healthful co-operation in their common work of higher education.

With the intimate relations thus established between the two, it cannot be out of place to review certain tendencies of our school system, not without their influence on the university. With the elaborate organization embracing public schools, high schools, collegiate institutes, normal and model schools, with a body of teachers now numbering in all upwards of 7,000, a uniformity in courses of study and specified textbooks, jealously guarded by departmental examinations and inspection, has been even more rigidly enforced. Much of this is unavoidable, but the present tendency is undoubtedly to excess in this direction. In the aim at uniformity we are in danger not only of forfeiting the healthful influence of special ability and enthusiasm in our best teachers, but of disgusting them with the profession and reducing it at best, to a respectable mediocrity. It is beyond the reach of the most efficient normal school, or of any professorship of pedagogy, to beget that innate aptitude of the true teacher, such as animated an Arnold or an Agassiz. Men of such type will accomplish more with the worst programme than a bad teacher with the best. No prescribed course of study, however excellent, will vivify itself. That depends upon the sympathetic fervour of the teacher, and he must have time for its free exercise. Fre-

quent complaints are heard of over-pressure in the public schools, but much of this I suspect is traceable rather to the lack of interest than to the amount of actual work done. The infant school and the kindergarten may be beguiled by singing and by instruction disguised in sportive forms, but with growing intelligence the powers of the mind must be called forth and quickened by the animating influence of the teacher. And if this is true of the school it is even more so in relation to the higher work of the university. We have by no means escaped this tendency to hamper the instructor with elaborately detailed schemes of study and examination requirements. It necessarily affects some departments more than others, and is accompanied by such a confusion of ideas as is seen in applying the same term "text-book" to a Homer, Virgil, Chaucer or Shakespeare, which do actually furnish a text on which the utmost variety of philological and critical study may be based, and to a Lingard, a Hallam, March or Craik, whose chapters anticipate the lecturer's work, rather than furnish a text for the student's analysis. But even where the term is recognized in its technical sense, the mistake is more and more made of dictating in mass a multitude of texts, irrespective of the time at the disposal of teacher or student; all the historical plays, or the tragedies of Shakespeare, the whole or the chief works of Moliere, or those of Victor Hugo, which in our own library edition are comprised in forty-four closely printed volumes. Such a programme is, at best, incompatible with thoroughness, while it tends to give the examination based on it not a little of the chance aspect of a lottery. One result of the affiliation of St. Michael's College has been to remove from the university programme all prescribed text-books alike in mental and moral science,

and in mediæval and modern history, with results eminently satisfactory to the professors emancipated from their constraint.

In truth, professors and students are alike in danger, under the modern system of elaborated programmes, of recognizing the examiner's report, and the place in the class lists, as the supreme aim and final goal of the academic career. The educational system which drifts into such courses is on the highway to become a mere machine, regulated by the clockwork of some central board, to whom a grand paper programme is the primary essential. It leaves no room for the men on whom the reputation of universities have ever most largely depended, and no time for the wider range of spontaneous and suggestive illustration, best calculated to stimulate the enthusiasm of the gifted student.

The more latitude a more thoroughly qualified teacher enjoys, the greater will be his success in all but mere routine work. His method may fall short of the departmental standard, but it is his own; and it is the one by which he will produce the most successful results.

I have already had occasion to congratulate you on the efficient revival of the medical faculty. This year we hail with no less satisfaction the realization of a long-cherished wish in the appointment of a professor to the chair of political science, not only as the first step in the reorganization of the faculty of law, but as an indication that in that revival we aim at something far beyond mere professional training. Political science in its full compass includes the results of the world's experience through all the centuries of civilized man. It embraces the philosophy of history; it aims at determining the basis of constitutional government and the obligations of the individual to the

State. The principles recognized in the administration of justice and the determination of civil rights are among the highest texts of national progress, and those it is its function to determine. It has, therefore, even more to do with the statesman and lawmaker than with the judicial administrator. But if adequately taught, political science, constitutional law and jurisprudence cannot fail to exercise an elevating influence alike on the lawyer and the statesman. If the bar of Canada is to advance in any degree commensurate with the progress of the country, so as to furnish men qualified to win for our own Supreme Court the confidence now reposed in the Privy Council as a final court of appeal, they must have the opportunity of mastering the knowledge on which jurisprudence is based. So, too, if Canadian statesmen are to cope with the grave issues that must constantly arise, affecting the relations of the federal provinces to the central government, and the no less critical questions of international comity in which our own interests and those of the empire are involved, it is no less indispensable that they shall be able to bring the experience and the wisdom of past ages to bear on the decisions of the present.

As an important step toward the accomplishment of this aim we have now the pleasure of welcoming in the new professor of political science a fellow and lecturer of Lincoln College, Oxford, who comes to us accredited by the most eminent of British historians, by other high authorities of Oxford and Cambridge, and by distinguished professors of foreign universities. The department of history has hitherto occupied a precarious place in the honour courses of this university. I welcome, therefore, with peculiar satisfaction, the establishment of a chair thus efficiently

equipped, which will give a new significance and value to historical study.

Happily at this same stage a rearrangement of the work has been effected so as to bring ancient history into more direct connection with classical studies. The branches of Hellenic and Roman history will now be reviewed in their immediate relation to Greek and Roman literature. Thus with increased facilities we enter on the work of a new year, stimulated by fresh incentives to exertion in the treatment of a department of study, which, under whatever limitations it may be placed will baffle the efforts of the most diligent student to wholly master it. Grote found in the history of Greece the work of a lifetime; in the experience of Gibbon that sufficed for no more than the record of Rome's decline and fall; while for Macaulay life proved too short for one pregnant chapter of England's national story. No subjects, moreover, call for more discriminating judgment in their treatment from the professor's chair than those now referred to. The remark of a distinguished Oxford professor applies no less to the teaching of political science than of history. "It was necessary," he said, "at starting to warn the students that they come to him for knowledge, not for opinions; and it would be his highest praise if they left him with increased materials for judgment, to judge for themselves with an open and independent mind." Yet, while this will, under certain limitations, be the aim of every wise teacher, his instruction would become an abstraction as insubstantial as Prospero's vision if he did not marshal the disclosures of history in such a way as to give some clear insight into their manifest teachings. The impartial historian is, he who manifests at all hazards an inexorable regard for truth, and a capacity for its unprejudiced discernment, how-

ever it may seem to affect the questions that divide the world.

As to political science, it is inseparably associated with historical study, for it must be to a large extent founded on induction from the experience of the past, and so embrace the whole philosophy of history. Two great names stand out in marked preeminence among the masters of Hellenic intellect, who have bequeathed to later generations works of undying interest; those of Plato and Aristotle. To the dialogues of Plato the student of ethical science and metaphysics reverts, as to the fountain head of speculative thought, and to the politics of Aristotle, the student of political science must be no less indebted for the wealth of national experience in the youth of the world's freedom at one of the most memorable periods of political development. For it must not be overlooked to how large an extent the ethical and the political philosopher had as their common aim the reformation of existing society and its elevation as far as might be to the ideal standard of a perfect social organization. The demands, moreover, made on humanity in the Republic of Plato, if more fanciful, scarcely surpass in stringency those of Aristotle's ideal state. Both clearly recognized that man is himself the prime factor in every social problem, and with true Hellenic sympathies, both no less clearly discerned that, intellectually at least, all men are not born with equal capacity for civic responsibilities. As to the modern literature of this subject, it is only too ample in its compass, and in its conflicting variety of opinions on those great social problems which are ever pressing for solution, yet are never finally solved. With such teachers as our guides we shall be able to rise above the mere professional training which is the bane of scholastic study, and dwarfs our best aims at higher education. Our

colleges must be centres of intellectual life and not mere marts for retailing certain kinds of knowledge as wares available for professional advancement in life.

Universities no longer monopolize the functions exclusively theirs in earlier centuries. The press encroaches alike on the pulpit and the professor's chair, and both preacher and lecturer more and more address themselves to that wider audience for whom it is available.

For words are things: and a small drop of ink,
Falling like dew upon a thought, produces
That which makes thousands, perhaps millions, think.

But all the more incumbent is it that the university shall maintain its high character as a centre of such pregnant thoughts. Genius is indeed independent of academic training, and stands in need of no university degree to accredit it. But the fact is of no slight significance that speculative thought, and those secrets of science within which lie all the grandest possibilities of the future have found appreciative welcome there, while, as yet they seemed to possess no practical value. It is from such speculation the ideas that rule the world have their birth, and from those abstract truths the great results proceed which have revolutionized the life of modern centuries. Hence the present cry for endowed research, and with it the recognition that the acquisition of a university degree should be regarded as but the close of preparatory studies and the entering on real work. The increasing number who are now following up post-graduate studies in our own university, at Baltimore, in England, or in Germany, is full of promise for the future. President Gilman, of the Johns Hopkins University, thus writes to me: "We have had such a noteworthy succession of your graduates among us that I should

much like to see their alma mater." At the present stage of university organization on this continent it is an important gain for us that the magnificent endowment of the Baltimore University has been devoted to such advanced studies as offer an inducement to the graduates of other universities to avail themselves of its special advantages.

I have before now expressed the hope that the day is not far distant when, from the generous liberality of its own graduates and friends, this university shall be endowed with adequate revenues, and constitute a centre of attraction for others besides Canada's most ardent students. But I cannot sympathise with those who deplore it as an evil that some of our best men, after 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. If it benefit us in no other way it will demonstrate more clearly the need there is for the fostering care of a true alma mater at a later stage than that of the undergraduate; that the university must be something more than an institution for providing certain later branches in the education of teachers, or furnishing some useful knowledge adapted for professional life. The professor who is a born teacher—and such alone are worth having—cannot fail to impress this conviction on impressible minds, even among those who have set for themselves no higher aim. He will inspire thought, stimulate genius and quicken the dormant energies of the student into eager search for higher truths. Hence the all important question of university patronage. For the first time in the history of this university, chairs are being founded and endowed from other than provincial resources. On the appointment to every vacant chair depends the intellectual development of a whole generation in the department which it re-

presents, and the cry that would narrow the choice to the graduates of a single university, or the natives of one province, is alike shortsighted and contemptible. The creation of a school of science for New England, and the reputation which Harvard now maintains as a centre of scientific enthusiasm and systematic research, are alike traceable to the selection, in 1848, of M. Louis Agassiz, then a foreigner on a passing visit to the United States, to the newly established chair of natural history in the Lawrence Scientific School. In like manner the appointment of Frederick Max Müller to the chair of comparative philology in Oxford has largely modified the whole aspect of linguistic study there, and has given a fresh impetus to the science of language and to the capacity of a new generation of philologists, trained under such influences. Nevertheless we do not undervalue native talent.

We have recently welcomed one after another of our own graduates as members of the faculty of this university. It is with no less sincere satisfaction that I congratulate you on the selection of two of our own men to fill important lecturerships in the Universities of McGill and Queen's College, Kingston, at the same time that the latter has selected for another of its chairs a graduate of high repute from the University of Glasgow. In elder centuries, when the universities of Europe were the sole nurseries of letters, their whole body of graduates constituted one brotherhood, and in a wider, but not less liberal, sense we recognize the republic of letters as a federation of ampler range than any political limits, to which we may turn at every need in search of the true teacher. We want neither pedants nor scholastic drudges, but leaders of thought; men of refined culture and lofty aim, who will speak with authority and whose personal influence will accomplish even more

than their lectures in the development of a high standard. It is, moreover, no loss, but an important gain, if the professor is himself a worker, busied in literary or philological research, or largely occupied with scientific investigations. The teacher who is himself a learner will ever communicate most knowledge to others, for he is in full sympathy with research, and is combating on a higher platform the same difficulties which beset the student in his daily work.

On the other hand, I feel assured that it is all in our favour that we have our academic house in this centre of industrial life, bringing high thoughts and abstruse speculations into competition with the practical industries of a domain stretching from ocean to ocean. It was my privilege, since last we met here, to be present at the installation of an old student of this college, in succession to the venerable Dr. McCosh as President of Princeton University, and few more enviable haunts of letters and science can be conceived of than that academic grove of elms sacred to the muses and their devotees. Doubtless, the retired seclusion of such a classic haunt has its advantages. Princeton has now for itself an honourable rank among the American universities, and has further triumphs, I doubt not, to be won under the leadership of its gifted young President. But for ourselves, I welcome the home of this university amid "the hum and shock of men." The history of a dominion larger than Europe lies as yet unenacted in the coming time.

It is no little stimulus to ourselves to believe that in this and kindred institutions men are in training as citizens, as statesmen, as Christian teachers, destined to turn to wise account the culture here acquired, in transforming our forest clearings and the vast prairies beyond, into the provinces of a great confederacy, proud to emulate the triumphs of the Mother

Land. Our free outlook into such a future is stimulating as "the breezy call of incense-breathing morn." In the communities of the Old World, the very nobility of the great men, and the magnitude of the events of past generations, must at times beget a sense of despondency, with so much to do and to undo. But here the sanguine evolutionist sees behind him only the graves of an untutored barbarism, around him the everwidening clearings of intelligent industry and a golden age beyond. The means at his disposal are such as no previous age has known. Science becomes in ever more marvellous ways the handmaid of industry.

It needs no longer the ideal creation of a "Midsummer Night's Dream" to "put a girdle round the earth in forty minutes." Our lot has been cast on virgin soil, in a century of unparalleled progress. There is no limit to the possibilities of the future, as new generations

Wake on science's growth to more,
On secrets of the brain the stark,
As wild as aught of fairy lore.

What a single generation has witnessed since we cleared the site for these university buildings is the best index of what the twentieth century has in store for you. Our efforts seemed for a time like the labour of Sisyphus. But if the friends of this university are ever again tempted to despond, they have only to recall that initial step when the founders of Upper Canada—amid all the engrossing cares of immigrants entering on the possession of an uncleared wilderness, yet with unbounded faith in the future—bethought themselves of the intellectual needs of unborn generations, and, while putting the ploughshare into the virgin soil, dedicated a portion of it as the endowment by means of which this university is now enabled to place within reach of all the priceless boon of intellectual culture.

HISTORY OF KNOX COLLEGE.*

BY THE REV. WM. GREGG, M.A., D.D.

THE theological seminary, now known as Knox College, was opened in 1844. Previous to this time the subject of theological education had engaged the attention of Presbyterians in this province. In the year 1829 the United Presbytery of Upper Canada, consisting chiefly of ministers from the secession churches of Scotland and Ireland, applied to the House of Assembly for a grant of land or money to aid them in establishing a theological seminary, but without success. Two years afterwards they applied to Lieut. Governor Colborne, requesting him to procure for them "the privilege of choosing a Professor of Divinity in King's College to sit in Council, and in every respect to be on an equal footing with the other professors in said college." But King's College and the Government of the country were then controlled by a High Church of England party, and therefore the application proved unsuccessful. Equally unsuccessful was an effort made by the Presbytery to establish a theological seminary at Pleasant Bay in Prince Edward County. Under the superintendence, however, of its members, several students were trained for the ministry in a private way.

The Synod in connection with the Church of Scotland was organized in Kingston in 1831 with nineteen ministers on its roll; and soon afterwards took steps towards training students for the ministry. A memorial was presented, craving His Majesty's Government "to endow an institution or professorships for the training of

young men for the ministry in connection with the Synod." Similar applications were repeated year after year. But, as in the case of the United Presbytery, and for the same reason, the Synod could obtain no help from the Government. At last, encouraged by the promise of assistance from the parent church of Scotland, the Synod resolved to adopt measures to establish a theological college without Government aid. An appeal made to the Presbyterians in Canada was responded to by liberal contributions, and in 1841 a royal charter was obtained for the establishment of the University of Queen's College in Kingston, which was then the capital of the United Provinces of Upper and Lower Canada. This college was opened for the training of students in 1842. The Rev. Dr. Liddell was appointed Principal, and the Rev. P. C. Campbell, Professor of Classics. Under these able and eminent divines it was now fondly hoped that Queen's College would have a career of uninterrupted success in training an adequate supply of Presbyterian ministers. But, in 1844, occurred the disruption of the Scottish Synod in Canada, and the organization of the Presbyterian Church of Canada, which, because of its sympathy with the Free Church of Scotland, was commonly called the Free Church. The majority of the ministers remained in connection with the Church of Scotland, but nearly all the theological students cast in their lot with the Free Church. The success of Queen's college as a theological seminary was thus seriously arrested. But in recent years the tide of prosperity has returned, and, at the pres-

* Condensed from a lecture delivered by Dr. Gregg at the opening of the present session of Knox College.

ent time, with its fine buildings, rich endowments and able professors, it occupies a foremost rank among the colleges of the country as an institution for the training of students in Theology, in Arts, in Medicine, and in Law.

As already mentioned, the Synod of the Presbyterian Church of Canada (or Free Church) was organized in 1844. The Synod at once took steps towards establishing a theological seminary and succeeded before the end of the year in having a college opened for the training of students in the city of Toronto, which then contained a population of 18,500, the one seventh or one-eighth part of its present population. The number of students in attendance during the first session was fourteen. The place of meeting was a room in the residence of Professor Esson in James Street, near where Shaftesbury Hall now stands. Mr. Esson, formerly minister of St. Gabriel Street Church, Montreal, had been appointed by the Synod Professor of Literature and Science. In these departments he conducted the classes with great ability and with such warm enthusiasm as stimulated the energies of the students. Theology was taught with equal zeal and ability by the Rev. Andrew King, a Free Church deputy, who afterwards became Professor of Divinity in the Free Church Presbyterian College, Nova Scotia.

During the second session—that of 1845-6—the number of students in attendance was twenty-two, of whom half were in the theological and half in the literary classes. Divinity was taught this session by Dr. Michael Willis, who, like Mr. King, had come as a deputy from the Free Church of Scotland, and who had attained to high distinction as a learned, acute, and profound theologian. Lectures on Church History and Pastoral Theology were given by Dr. Robert

Burns, who had visited this country as a Free Church deputy in 1844, and who, in the following year, had accepted the pastoral charge of Knox Church, Toronto, as well as the position of Professor in the theological college. His extensive knowledge of ecclesiastical history and long experience as a pastor fitted him for the work he now undertook. Biblical Criticism and Hebrew were taught by the Rev. William Rintoul, then minister of Streetsville, who was well versed in Oriental literature. During this session the college met in Adelaide Street, and was furnished with a library of more than 2,000 volumes, which Dr. Burns, with characteristic energy, had collected in Scotland.

During the third session of the college the number of students in attendance was thirty-seven, of whom twenty-one were in the theological classes. Science and Philosophy, Church History and Pastoral Theology, Hebrew and Biblical Criticism were taught by Professor Esson, Dr. Burns and Mr. Rintoul. Systematic Divinity was taught by the Rev. Robert McCorkle, who, like Mr. King and Dr. Willis, had come as a Free Church deputy, and who discharged his duty as *interim* professor, with singular ability and unwearied zeal. During this session classes in Latin and Greek were taught by the Rev. Alexander Gale, Principal of the Toronto Academy, which had been established as a preparatory school for the instruction especially of young men intending to study with a view to entering the theological college. Mr. Gale had been minister of Knox Church, Hamilton, and both before and after the Disruption was one of the most prominent leaders and wisest councillors of the Presbyterian Church. The college met this session in the building in Front Street, afterwards known as Sword's Hotel, and now as Queen's Hotel.

In 1847 new arrangements were made. Mr. Galé was formally appointed Professor of Classical Literature, and the professorship in the college was separated from the pastorate in Knox Church—Dr. Burns retaining the position of pastor. The Rev. John Bayne, of Galt (afterwards Dr. Byne), was sent as a deputy to Scotland, authorized, in connection with the Free Church Colonial Committee, to choose a Professor of Theology. The result was that Dr. Willis, whose qualifications for the office had already commended themselves to the Church, was selected. The duties of Theological Professor he continued to discharge for three and twenty years. It is not too much to say that to no other man is the Church more indebted, under God, for the sound evangelical doctrine

which is maintained by the Presbyterian ministers, and prevails among the Presbyterian people of Canada even till the present day—for it was no diluted, vacillating or molluscous theology he taught. The doctrines of Grace as found in the Scriptures, and exhibited in the Westminster Standards, he clearly unfolded. Ministers, who, when students, listened to his lectures, still speak of the clearness, force, and power with which he expatiated on the sovereignty of God, on the doctrines of predestination and election, on the covenants of works and of grace, on the vicarious nature and definite purpose of the atonement, and on those other great doctrines which relate to the person, offices and work of Christ, and of the third person of the Godhead.

(To be concluded next month)

UNIVERSITY MATRICULATION IN CLASSICS.

BY JOHN FLETCHER, M.A., PROFESSOR OF CLASSICS, QUEEN'S UNIVERSITY, KINGSTON.

EVERYBODY interested in higher education in this Province must have hailed with satisfaction Mr. Henderson's able address of last August before the Teachers' Association, and the recommendations then made by the committee appointed to consider the University curriculum. It seemed as if there was some prospect of putting elementary classical work in our High Schools at last upon a reasonable basis. For twenty-five years little change has been made in the matriculation curriculum in Latin, and, except the alternation of the books, none whatever in the matriculation curriculum in Greek; and such long-standing immutability from change has invested the old system with a sanctity apparently that has served to perpetuate its absurdity until now.

It is true that the old passage of "dog" English with the Latin below went by the board some years ago, and no longer figures on the pass Latin paper as a pretence for Latin composition; and a paper in Latin accidence has been added for Latin pass (if it was good in Latin it would have been good in Greek also); but the curriculum is in form and spirit substantially what it was twenty-five years ago, and the method of examining upon it is still substantially the same. One year's preparation in Latin, half a year's preparation in Greek, will still carry the aspiring matriculant with flying colours into the University. Twenty-five years is not long, it is true, in the history of a nation; but it is long enough to have removed a reproach like this. If in-

deed, the six months—which is often all that the pupil who is making haste to matriculate finds it convenient or necessary to put upon his Greek—were reasonably and profitably spent in mastering the elementary forms of the language, as far as that in such a limited time could be done; if it were spent, that is, upon declensions and paradigms and the writing of easy sentences in Greek, there would be no particular reason for regret. But such a course would lead to disaster: the candidate would inevitably be plucked. He wastes his six months in committing to heart his book of Xenophon and his book of Homer from Bohn's excellent library of literal translations. This, he hopes, if he has any luck, will land him safely beyond the dreaded minimum of twenty-five per cent. *And it does.* No one can blame the matriculant for getting up what will pay him best; or the teacher for keeping his pupil at the only thing which, in the time at his command, will put him through his examination. The blame rests, as has long been maintained by the best teachers, with the matriculation curriculum; and in Mr. Henderson's address, to which I have referred, and in the recommendations of the committee, we have something definite and practical in the direction of reform. Some notice of the points dealt with and discussed, so far as they affect University matriculation in classics, may not be inopportune at present.

With regard to the Harvard system of elective studies and unlimited options, one may condemn it with Mr. Henderson or not; but the Harvard matriculation examination in classics will, I think, commend itself to the practical teacher, and has been nearly reproduced in the Committee's recommendations. These are as follows:

(1) That an easy paper in Greek

grammar be set at matriculation. This is coupled with the following sensible caution to examiners:

(2) That the examiners shall have due regard to syntax in setting papers in grammar, and avoid making such papers a collection of examples in accident.

(3) That easy sentences in Greek composition, based on the work read, be exacted from all candidates.

(4) That sight passages be given in the pass matriculation, both in Latin and in Greek, such passages to be short sentences from the authors read.

(5) That the pass author in Greek be Xenophon.

(6) That the paper in composition, the paper in sight translation and grammar, and the paper in prescribed translation, be counted as of equal value at the examination.

If to these be added:

(a) That easy sentences in Latin composition, based on the work read (including Bradley, Ex. 1-40), be set for Latin pass;

(b) That the pass author in Latin be Cæsar;

We shall have a thorough, graduated, and practical curriculum for elementary work in Latin and Greek. The principle at the root of these recommendations is the apparently simple and obvious one, that in teaching Latin or Greek the object to be aimed at from the start is facility in the use of the language. Till that is gained, the literature is a sealed book. The recommendations are the practical outcome of twenty-five years' experience in teaching. Anyone who has succeeded in imparting a knowledge of Latin or Greek, really adequate and really worth possessing, has done so along these lines, and in spite of our present curriculum, not in consequence of it. The President of University College has just given the assurance that the matriculation requirements have been modified to

suit the wishes of the masters of our High Schools," and the changes now recommended may accordingly be expected to come into operation as soon as possible. For the credit of classical instruction in our schools, they cannot come into operation too soon. The fall of a system which has flourished so long and so perniciously will be hailed with joy by every one who really wishes our education to be ruled by the prayer, *Da mihi, Domine, scire quod sciendum est*—"Grant that I may learn what is worth knowing." Such a sweeping change in the principle of our elementary classical instruction will involve others. Once admit that a knowledge, thorough as far as it goes, is to be exacted from all matriculants, and it follows that the present minimum of twenty-five per cent, which is another of the crystallized absurdities of our University matriculation, must go. This Mr. Henderson in his address, very fairly and very justly, insists on. What is worth doing at all is worth doing well. A minimum of twenty-five per cent means nothing in the way of knowledge. Much better leave a subject altogether un-

touched than encourage any one to aim at, or be satisfied with, such beggarly attainment. But a raising of the standard, Mr. Henderson urges, means an extension of the time devoted to preparation for matriculation. It certainly does. Very few pass men at senior matriculation, or at the first examination in the University, could take fifty per cent, (not a very high standard of excellence) on the matriculation curriculum outlined above. And to demand such a standard from entrants, is just, asking the schools to do the first year work at the University. With Mr. Henderson I ask, Why should they not? It is school work, and it will be better done (when it is well done) in the schools than in college. It also means—this raising of the standard—more attention paid by the majority of the schools to classical work, at least in the case of pupils preparing to matriculate; and, consequently, less attention paid to the other side of High School work, the preparation of candidates for teachers' certificates. This, however, is a wide question, and to discuss it at present would take me too far afield.

BOTANY IN THE COUNTRY SCHOOLS.

BUT few will attempt to teach this science on account of the difficulties which seem to be inseparable from the investigation of plant life. But little progress can be made without the objects of thought are present in the form of plants. No word description, no picture of the objects will at all times convey a proper concept. In the verbal description of a plant, the mind anxiously moves along the words of the sentences to find the elements of a distinct idea. It finds that words cannot furnish these elements, and abandons all effort. On

the other hand, if the plant itself is present, the mind eagerly observes its qualities, and forms a distinct idea of it, and can clearly make distinctions between it and other plants.

In selecting proper objects of study we began with seeds, choosing corn, beans, peas, pumpkin, radish, etc. These we planted in a box prepared for their reception, and placed in a south window. We made a sketch of the seeds of corn, beans and pumpkins as wholes and also in sections. We measured the circumference in two directions, making an accurate

record of the same. Before planting the corn and beans, we soaked the seeds for twenty-four hours, after taking the first measurements, measured again and compared the records. We discovered from this that the presence of moisture in the seed changes the starch into sugar, for the purpose of sustaining the young plant until it can gain a hold in the soil.

We daily took up one of the seeds and noted the changes as they occurred, supplementing the written descriptions always with small sketches in the margin, referring to the text book to confirm our observations. Each member of the class was provided with a small magnifying glass to aid inspection.

When the plants appeared above the soil, we took note of the fact that while the seed of the corn and pea remained uncovered those of the bean and pumpkin appeared above the soil, forming the primary leaves. We watched the progress of the root downward and the stem upward, always making the differences in growth a matter of record.

No amount of merely verbal descriptions can take the place of objective study presented in this way. The teacher is in danger of attempting too much in a lesson, of presenting what he knows best instead of that which his pupils most need, of dwelling upon what is unimportant or only remotely connected with the subject in hand, or of being too elaborate for his pupils. The essential parts of the plant should receive attention first, and the scientific and the common names should be carefully learned.

When it is remembered that the children in the school are forming habits of observation, of imagining, thinking, feeling, willing, and expression, for life; that they should be acquiring knowledge at first hand, and the ready command of those instru-

mentary branches which are to be the means of further acquisition through life; it will be seen how well adapted to secure these ends is the study of plants. Therefore, the work should be thoroughly done.

The pupil's ability to interpret the record is proportional to his knowledge of the objects which the record describes. The language of the record being his own, he should know the meaning of every word he uses. He will not obtain this desideratum if the teacher is not careful to lead him to know what he should write, by skillfully questioning him on all the points to be brought out.

While our plants were growing in the box we studied other plants and roots, flowers and fruit brought in by the class. Bringing only note books and the specimen to the class, the recitation consisted solely in discovering and writing down the facts which the plant would suggest. The facts noted in the recitation books were afterward copied in ink into the permanent book with which each pupil was provided. Any sketches needed to clear up a statement were also placed in the permanent record, and the pupil was encouraged to look carefully after his language and orthography.

Enlarged drawings were also made on a sheet of paper stretched specially for the purpose, each pupil taking his turn at the board, and the drawing progressing daily. I know of no other way in which teachers may so successfully overcome the difficulties attending "learning to draw" as this. The pupil has carefully considered the form which he is to delineate. "Observation" has been regulated and directed to this very end; he has given thought to the plant, and now attempts to express that same thought by other means. In time he will do it and do it well.

When we arrived at the proper

point we began classification, using only the plants we had studied. Then began to clear up what before had seemed an interminable list of plants, and they were gratified to find that corn, wheat, oats, etc., are all grasses; that the potato, onion, and lily bulb are all branches instead of roots; that the strawberry is simply the calyx of the flower developed into fruit.

They learned to look about them and find objects on every hand incit-

ing them to study. And while eight weeks only were occupied in daily lessons which never exceeded forty-five minutes—more frequently only thirty—the discipline derived in training the brain to act, the eye to perceive, and the hand to perform, was most valuable, and the class looks forward to the time when it may resume its investigations. “Words fitly spoken are like apples of gold in pictures of silver.”—*Fames R. Taggart, in School Education.*

REMAINS OF MOUND BUILDERS.

SINCE 1870 Prof. Montgomery (Vice-President of the University of North Dakota) has been much interested in investigating the works and remains of extinct races of this continent, and during the past five years has devoted considerable time to the exploration of artificial mounds in Dakota. The greater portion of this work done in Dakota has been in the neighbourhood of Devils Lake, Fort Totten, and Inkster.

The vast accumulation of facts to which eminent scientists are now adding so much concerning the human beings who occupied this continent in pre-historic times can not but interest every one, and compel each to ask himself many questions as to who were these men and women, and what their origin and modes of life were.

Prof. Montgomery states as his opinion that the higher portions of North Dakota were very thickly populated with these people. From the location of the mounds it is known that in certain places there were vast cities occupied by an immense population. St. Louis is thought to have been the capital and largest city of the nation occupying the North American continent. In

that city and vicinity were many mounds, among them the largest found in America. This is situated near East St. Louis, and measured 90 feet in height, 700 in length and 500 in width. As in the case of St. Louis, so in many other cities, the white man has merely followed his forefamer in the choice of position. In a conversation on this subject Professor Montgomery said: “I delight to look at and to think of the pretty scenes around Fort Totten, and would give a great deal to know the name of the great city which flourished in that vicinity many centuries ago. I wonder what were the names of its principal streets, and how long this city had an existence. What beautiful bathing beaches, walks, groves, and views its citizens must have had.”

These mounds are found widely distributed over North America, following the course of rivers—chiefly the Mississippi and its tributaries—and always on high ground. Many of the mounds have disappeared; some—probably the number is very great—are no longer visible above ground. All are certainly much lower than when built, for, aside from what long ages have accomplished, much of

the soft earth must have been washed off by rains, etc., before grass covered the mound.

Of course nothing very definite can be stated of the builders of these mounds, as to when they flourished, whence they came, or how they became extinct. The contents and surroundings of the mounds form, however, two great sources of evidence concerning them. Many specimens of handiwork have been found. Prof. Montgomery has taken from mounds in Dakota wonderfully fine work in bone, shell, stone, copper and clay.

The evidence of the surroundings is perhaps equally valuable and more definite than that of the contents. Mounds, doubtless once high, have disappeared from view, and many even of their least perishable contents have crumbled away. Two or three times mounds have been found with large trees upon them. On one an oak was found whose trunk when sawed across showed nearly six hundred rings of growth. This tree grew in the north-western part of the United States, where, on account of the climate, there must have been a cessation of growth for three or four months in the year, and each ring must represent about one year's growth. This proves that the mound must have existed about six hundred years; but the tree had been dead some time when discovered, and who can say how long the mound existed before the tree came into life, or even that other trees had not lived and died on the same mound before that time?

Prof. Montgomery considers these mounds the work of a race wholly extinct and in many respects quite different from the Indians of the present time. This is evident from a study of their skulls and also the samples of handiwork found in the mounds. It is his opinion that they belong to a Mongolian race, not such

as the Chinamen we see in America, but a larger sized people. Some of the skeletons taken from Dakota mounds were more than six feet in length.

Among the mounds which Prof. Montgomery has worked in Dakota may be mentioned thirteen which he opened near the head of Forest River in 1883 and 1885, twenty-one near Devils Lake during the summer of 1887, and also the one recently opened in the city of Grand Forks, between Reeves avenue and the Fargo road, just south-east of the Belmont school house. These mounds averaged 50 feet in diameter, with a range of 35 to 90 feet, and over 5 feet in height. The largest was at Forest River, and had a diameter of 90 feet, height 10 feet. From these mounds Prof. Montgomery has removed over eighty human skeletons, twelve having been removed from the mound in Grand Forks.

Near both Devils Lake and Forest River he found what geologists have agreed to call sacrificial mounds. These latter are objects of great interest, and, of course, some doubt exists respecting their original use. In them were found skeletons of bears and other animals, and, as altars of clay were also found, it is believed that these animals were offered as a sacrifice.

Near Devils Lake was found one mound of observation which had been used as a beacon mound. As a proof that the fires on it had been long continued and hot, there was found on digging from the top red clay burned into red brick to the thickness of two feet.

While talking of his investigations in various parts of the country Prof. Montgomery tells some amusing stories. On one occasion, being for several days occupied in excavating a mound, he was making use of a hot water solution of glue for the better

preservation of the skulls, and, by an oversight, left the solution standing outside in an open vessel. The solution cooling, during the night, the glue solidified. A rambling dog removed it bodily from the vessel, and, when the professor returned to the spot next morning the dog was struggling desperately in the vain effort to masticate and swallow the glue. At another time he was greatly amused by observing a dishonest curiosity

seeker surreptitiously removing some bones of lower animals, which in his ignorance the thief thought to be those of the mound builders themselves. Again when staying over night at a farmer's place, so great was the terror of the good people of the house, that, with a view of preventing ghosts from disturbing the family, Professor Montgomery was forced to keep strict guard over the skulls all the night.—*The Student.*

THE TEACHING OF THE ENGLISH LANGUAGE AND LITERATURE.

BY H. E. SHEPHERD, LL.D., PRESIDENT OF CHARLESTON COLLEGE.

I.—METHODS OF STUDY IN ENGLISH LITERATURE.

THE prominence assigned in our contemporary educational literature, as well as in our practice, to the art of methodology, has led to a revulsion which is both logical in its character and salutary in its effects. The untempered zeal of the extreme methodologists has caused them to assign to their shallow artifices a sort of magical efficacy, as though the highest ends of instruction were to be accomplished by mere dexterity; pure attainment, cultivated judgment, delicate scholarship, lofty idealism, all being of secondary import in this dispensation of sciolism. In the development of his philosophic system Bacon seems to have anticipated some of the characteristic features of our modern educational empiricism. The *Novum Organum*, which he believed was to revolutionize existing methods of philosophic investigation, was to achieve success not by force of individual skill or aptitude, but by the intrinsic excellence of the *mōdē* pursued. Original differences of genius, tem-

perament, character, were to be effaced by the adoption of the system which ignored them and accomplished its ends by the supreme merit of method alone. Bacon's scheme of levelling all original differences and setting aside all native or acquired faculties, is a suggestive and entertaining commentary when read in the light of modern developments. Still, it is neither wise nor salutary to press reactionary movements to an extreme degree, and there can be no doubt that methods may be effectively employed as an *auxiliary* to the higher condition of true scholarship. In any sphere of educational work, their function must be secondary and subordinate, not primary or exclusive.

So much has been written and said in regard to modes of instruction in primary schools that the world has grown weary of the theme. The loftier spheres of scientific, literary and historical teaching have happily escaped the empirical epidemic, and will remain free from its tainting touch. The field of English literature and the English language—in its higher forms—seems to have been thus far undeso-

lated by the oracles of empirical education.

I purpose in the present paper to set forth concisely some results, gathered from a varied and changeful career as teacher of English literature. They are offered in no spirit of dogmatism—merely as suggestions for consideration—for scholarly reflection—by no means for necessary acceptance or approval.

First of all, it is the tendency of modern teaching to divorce the literature from its natural cognate and interpreter—the department of history. For literature is the artistic expression of the historic life. The one elucidates and illumines the other; their separation is illogical and empirical. A broad, critical and sympathetic knowledge of the great lines of historic growth, is an essential requisite on the part of every teacher of English literature. It is in the bewildering complexity of modern historical life that this harmony of relation is most perceptible and most impressive, yet it may be traced in the simpler historic development of antiquity—a notable illustration being the advance of Athens to the literary and political supremacy of Greece, under the stimulating influence of the Persian wars. Other instances may be gathered from the elder world, but the modern ages abound in examples and illustrations. Let us select from the rich field at our disposal, elaborating our selections, so as to confirm the truth of the general proposition. The Elizabethan age is a mirror held up to nature, in which is reflected the form and pressure of the historic life. Every phase of its luxuriant and versatile growth, is suggestive of some distinctive feature of its political, moral, or material expansion. The creative form assumed by its literary types, the surrender of its noblest writers rather to impulse than to critical guidance, point to the quickening force of cer-

tain historic influences which we shall now endeavour to indicate.

As a matter of historic record, when Elizabeth ascended the throne in 1558 both language and people were in a disorganized and distracted condition. The sweet strains of English song that had arisen with Chaucer died away almost as suddenly as they had begun, leaving only fitful echoes of their melody during the dreary age that extends from the advent of the fifteenth century to the prelude of symphonies of Surrey and Wyatt. The nation had been convulsed by the thirty years' war of York and Lancaster—a struggle involving no grave constitutional or moral principle, but leaving an abiding impress upon the character of English history and of English speech. The introduction of printing stimulated in its first effects prevailing linguistic disorders. The Renaissance and the Reformation followed in its train. Classical learning, at first pursued in accordance with logical and rational methods, soon degenerated into an elegant affectation, and instead of striving to domesticate the acknowledged graces of Greek and Roman artists, strove to engraft upon the simple structure of our language, the complicated periods of the ancients. The acrimonious strife of the Reformation absorbed the minds of scholars, and diverted their energies from the ennobling pursuits of literature. The structure of the language was unsettled, its syntax was fluctuating, its vocabulary not ascertained, its metrical principles and combinations undetermined. Its verbal richness was being steadily increased by translations of the Greek and Latin classics, by the spirit of commercial adventure, geographical enterprise, and knightly daring. For the higher purposes of scholarly composition, the language was had in slight esteem, and Ascham apologizes for employing it, "doubting not that he should be blamed"

for this act of supposed condescension to the rights of the native speech. At the accession of Elizabeth, there was no clear foreshadowing of the most brilliant creative epoch that has been developed in modern literature. Yet in thirty years from the beginning of her reign it was ripening into supreme vigour and splendour—the transformation is complete.

Let us note the historic influences that had produced this marvellous result. First of all—pre-eminent above all—was the lofty sense of self-respect, the stimulus to national consciousness, resulting from the splendid victory over the Spanish Armada, an achievement that may be justly described as the English Salamis. Other influences are to be enumerated. The knightly love of adventure; the spirit of heroic enterprise; the expansion of geographical and commercial knowledge; colonization; the quest of strange lands in the “unformed Occident,” were all determining forces, exhilarating agencies. Then, too, was the relation of England to foreign powers, growing out of the complex struggles of the Reformation to establish itself in the Low Countries, the Huguenot struggles in France, and the almost ceaseless strife with the power of the Spanish monarchy. The revolt of the Netherlands began in 1568. Sidney was then fourteen years of age; Bacon, eight; Shakespeare, four; Raleigh and Spenser were sixteen, being both born in 1552. In the midst of all, and in one sense above all, was the brilliant figure of Mary Stuart, the inspiration of the Catholic cause; the object of an unflinching homage, whose tragic death at Fotheringhay, in February, 1587, was the immediate occasion of the descent of the Armada upon England. Sir Philip Sidney, the purest expression of all that was noble and lovely in the manhood of Elizabethan England, breathed out his young life in Octo-

ber, 1586. During this year it is probable that Shakespeare came to London in quest of a livelihood. In 1587 appeared Marlowe’s “Tamerlane,” which forever fixed the place of blank verse in the English drama. During these same eventful years, Raleigh was founding the English colonies on Roanoke Island, and Drake was circumnavigating the globe. The age was a drama in constant progress; its moulding influences were dramatic; that its literature should have in large measure assumed the dramatic form is but the logical outcome of the events that fashioned it. Much even of its non-dramatic poetry is tinged by a dramatic radiance. The noblest allegorical expression of contemporary life has its dramatic features and its dramatic tone. The peculiar blending of the spirit of chivalry, the fantasies of the mediæval era with the rising realism of the modern world, is a marked characteristic of the Elizabethan age. Its Sidneys and Raleighs, its Galahads and Lancelots, had not outlived the fascination of the romantic day, at the same time they had developed some of the distinctive features of our modern materialistic and realistic life. They stand on the border land, where the charm of one age is receding, and the strongly marked outline of another is rising into view. The old order is changing, but the ancient economy lingers, its brilliance and its glamour are still reflected, and the new dispensation has not lost the freshness and vigour of novelty. That the literature of Elizabethan days should have assumed a creative and dramatic cast, would seem to be the mere logic of events, every historic influence converging to this grand result. No teacher is capable of estimating the character or the cause of this unparalleled era, who is not acquainted with the complex historic life of the sixteenth century. If we select the

age of Anne, we find that the general law of literary and historic relation holds good. If we investigate the closing decades of the Georgian era, the epoch coincident with the dawn of the first French Revolution, the revival of the romanticism, and the decay of classicism, we find that our principle applies in undiminished vigour. It is one of the peculiar charms of literary history, if it be pursued in accordance with the rational or scientific spirit, that the seminal forces, the germs which are to ripen into mature activity in a given age, may be detected in the age which precedes it. The neologism or barbarism of one era becomes the reputable idiom, the recognized type of the next. The scholastic genius of our Augustan age is not only potentially present, but vigorously developed in the literary work and character of Ben Jonson. The philosophic scheme of Bacon was unfolding just as Shakespeare had reached the highest point of our romantic drama.

When we pass from the "spacious times of Queen Elizabeth," into the reign of the second Stuart monarch, we note the gradual but steady development of that "obstinate questioning," that rationalistic temper which at a subsequent day is to come to maturity in the *Principia* of Newton, the philosophy of Hobbes and of Locke, the structural charm and "golden cadence" of Addison and Pope. In political development, in the struggles of the Long Parliament, in the constitutional revolution of 1688, in the expansion of physical science by scholars and thinkers during the distractions of the civil war, in its mature development under the culture of Newton, in every

phase of intellectual life, we detect the presence of this same critical and regulative spirit. It is seen in the decline of our periodical syntax, in the development of our modern prose form, in the perfection of the heroic couplet, in the Bentley-Boyle controversy, as well as in the struggles against monarchical absolutism. The entire range of literature will furnish scarcely an exception to the fundamental law enunciated.

Take the decline of German national spirit and the consequent decay of German literary aspiration after the Thirty Years' War; the subjection of Germany to Parisian influences, intellectual as well as political; the falling off of English literature from the death of Chaucer to the advent of Surrey and Wyatt, in whom we see the first-fruits of the English Renaissance; the classic type assumed by French literature in consequence of the political influences that controlled the age of Louis XIV.; the vice of romanticism in France during the era succeeding the revolution, when in Great Britain the genius of Wordsworth, Burns and Scott had laid bare the very springs of native life and romantic spirit.

Let us insist rigidly upon the observance of the principle, that literature and history elucidate and interpret each other; that the scheme of instruction which divorces the one from the other is illogical, misleading, and irrational.

In the next place I would impress the need of restraint and moderation in the pursuit of this study. Nowhere in the range of instruction is the necessity greater for regarding the laws of harmony, the principle of adjustment.—*Education.*

All God's angels come to us disguised,
Sorrow and sickness, poverty and death,
One after other lift their frowning masks

And we behold the seraph's face beneath,
All radiant with the glory and the calm
Of having looked upon the front of God.

THE TRAINING OF TEACHERS.

THE inaugural address of the session in connection with the Bradford branch of the Teachers' Guild was delivered on Friday evening, in the Bradford Grammar School, by Mr. S. S. Laurie, LL.D., Professor of Education in the Edinburgh University, who took for his subject "The University Training of Teachers." The Rev. W. H. Keeling, M.A., occupied the chair, and he was accompanied on the platform by Mr. T. G. Rooper, Mr. F. H. Colson, M.A., and Mr. W. Claridge, M.A. There was a good attendance.

Professor Laurie said that professional training in the sphere of primary instruction was already an accomplished fact in the State (denominational) training colleges, and though doubtless susceptible of considerable improvement, it was a universally recognized success. Education as a philosophy and history was professed in many German and American universities. The question which ought to be considered—a question, in his opinion, ripe for settlement—was the philosophic and historical study of education in the universities of Great Britain, and the need of such a course of study for all who intended to become middle and upper school masters. Teaching or instructing was an art. In instructing the individual teacher was supreme over his pupils. Understanding being the end that teachers as instructors had in view, and there being a way whereby a human being understood, they truly instructed only if they followed that way. A statement of that way was a statement of method; and as it was, further, a statement of the process of intelligising, it was psychology in its most interesting and suggestive form.

But not only was there a general method; there were particular methods. Method was essentially the same for all subjects, but its application to the various subjects of instruction was not always obvious. Particular methods, therefore, had to be taught, but these were dead and barren if the spirit of philosophy were not breathed into them. Still, further, teachers had to consider the end they had in view in instructing, and, as determined by this, the materials of instruction. How could all the questions which were to be considered be rationally approached save in relation to a philosophy of life. Here, indeed, all must philosophise, either consciously or unconsciously. Was education a subject for inquiry? Was it a subject at all in an academic sense? If it were a subject at all, it was manifestly a department of philosophy. As such it claimed a place in the faculties of philosophy in our universities. And just as philosophy itself was enriched by the history of opinion, so was the subject of education enriched by the history of theories, of national systems, of scholastic experiments. Thus were many errors marked out for avoidance, and many truths illustrated and confirmed. For his own part, he did not see how the vexed questions of education were to be settled except scientifically. He held that professors of the philosophy, art, and history of education were needed, and that all aspirants to the office of schoolmaster should be required to study under them for a time. He went on to deal with some of the objections which he said were commonly urged. Some feared, he said, that the study of education in its philosophy and history would con-

vert our future teachers into theorists. Now, the very reverse of this was the result of the study of a subject scientifically. Scientific training was the protection of the mind of teachers from "fads." We were told that teaching was so much a mere art that practice for a few months in a good school under a competent head master was more beneficial than any possible course of lectures. He agreed with this to a certain extent, but practice alone could never make anything but a mechanic. Practice, even when accompanied with the study of particular methods of instruction, failed to produce the educator. How much less could mere practice without any study of method or methods do so! Grant that the schoolmaster was an educator, and that an educator should study education, the further question remained, Where should the professors of education be placed? He answered, Where the future teachers of all schools except the primary received, or ought to receive, the rest of their preparation—viz., in our universities. Apart from the consideration of convenience and economy, he held that our universities, as the homes of science and philosophy, claimed this highest of all applied sciences as part

of their work. It was their duty as well as their privilege to guide the thought of the nation. Many difficulties presented themselves; but there was only one way of finally overcoming them all. This was by a Teachers' Registration Act, which would virtually limit the profession to two classes of teachers—those who held a Government certificate, and those who held a university licentiate-ship. Were such a law passed, the cause of education—middle and upper class education—would receive as powerful a stimulus as primary instruction received from the Acts of 1870 and 1872. The dignity and status of the scholastic occupation had hitherto been borrowed entirely from the clerical profession; but in proportion as laymen obtained scholastic appointments, to that extent must education find a philosophical basis for itself if it were to hold its own among the liberal professions. He further pointed out that as that philosophical basis was the same for infant school teaching and university teaching alike, its universal recognition would weld together the whole body of schoolmasters in one vast organization, having common aims and engaged in a common national work.

SCRIPTURE LESSONS FOR SCHOOL AND HOME.

NO. 21. WARNINGS AND BLESSINGS.

To read—*St. Matthew xi. 20—xii. 13.*

UNREPENTANT CITIES. (20—24.) Three villages on shores of Galilee—many miracles been done there or in neighbourhood—signs of Christ having come from God. Inhabitants rejected Christ's teaching—rejected Him. Capernaum especially favoured as his own city—had healed centurion's servant, Peter's mother-in-law, etc. (viii. 5, etc.).

Other cities destroyed which had had no such privileges, e.g. Tyre besieged by Nebuchadnezzar. (Ezek. xxix. 18.)

Sidon, very old city (Gen. xlix. 13), now ruined.

Sodom, destroyed by fire. (Gen. xix. 24.)

The day of judgment will (a) Try all men's works. (1 Cor. iii. 13.)

(b) Sever between good and bad. (St. Matt. iii. 18.)

(c) Destroy all who obey not God. (2 Thes. i. 8.)

II. BABES AND WEARY COMFORT-ED. (25—30.) Knowledge of God hid from wise, *i.e.* intelligent, such as Scribes and Pharisees; could not see Christ's truth (St. John ix. 41); remained in ignorance.

1. *Christ believed in* by "babes" and ignorant. Examples:—

Children who shouted "Hosanna!" (xxi. 15.)

Common people heard Him gladly. Ignorant fishermen became disciples. (Acts iv. 13.)

2. *Christ has all power* from His Father. Power over angels (Heb. i. 4), winds and waves (xiv. 24), etc.

3. *Christ gives rest to heavy-laden*, by forgiving sin, *e.g.* sick of the palsy; to *weary* with disease, *e.g.* man at Pool of Bethesda thirty-eight years (St. John v. 8), to mourners as Martha and Mary. (St. John xi.)

III. OBSERVANCE OF SABBATH.

(xii. 1—21.) 1. *Works of necessity*. Ears of corn plucked and eaten, as allowed by law of Moses. (Deut. xxiii. 25.) Pharisees object because is doing work. Christ's answer based

(a) *on precedents*—

David's eating shewbread. (1 Sam. xxi. 6.)

Priests doing work of sacrificing.

(b) *On law of necessity*, superior to positive precepts.

(c) *On law of charity*, greater than all law.

(d) *On His sanction* Who made the Sabbath.

2. *Works of mercy*. Law of charity further enforced—

(a) *By analogy*—a man is better than a sheep.

(b) *By miracle* of healing man with withered hand.

Thus the Sabbath was made for man—his rest, comfort, etc.—not man for Sabbath, to be a burden.

NO. 22. PHARISEES' PLOTS AND BLASPHEMIES. SIGNS.

To read—St. Matthew xii. 14—50.

I. PLOTS. (14—21.) Why do Pharisees seek His destruction? Because of His upsetting their teaching. Christ withdraws—His time not yet come. But people follow Him in crowds—all healed. Because—

(a) He must fulfil prophecy.

(b) He is God's servant—to do His will.

(c) He must show God's justice to all nations.

(d) He must not break the weak by harshness.

(e) He must fan the flame of the conscience.

(f) His name shall be tower of strength. (i. 21.)

II. BLASPHEMIES. 1. *Against Christ*.

(22—30.) Blind and dumb man healed. Power of giving sight and speech specially foretold. (Isa. xxxv. 5.) People ascribe His power to descent from David; Pharisees to power of devil. How did Christ answer?

1. Satan would not destroy his own kingdom.

2. Power of casting out evil spirits been of old given by God, *e.g.* David and Saul. (1 Sam. xvi. 23.)

Christ, therefore, will destroy power of devil—first his goods, *i.e.* disease and pain, effects of sin, and finally devil himself. (Rev. xx. 10.)

3. *Against the Holy Ghost*. (31—37.) Solemn warning. Sin against Christ may be forgiven if repented of, but one particular sin unpardonable (1 John v. 16), *viz.*, wilful opposition to work of Holy Ghost—wilful infidelity.

St. Peter spoke against Christ and was forgiven.

St. Paul blasphemed Christ, but obtained mercy.

Jews rejected Holy Ghost (Acts vii. 51), were lost.

Therefore all must take heed how they speak. Good heart, like good tree, produces good results, viz. :—

Good words, i.e. of truth, love, purity.

Good works, i.e. justice, mercy, love.

But evil, vain, idle words produce evil now, and will be judged hereafter. By words justified, *i.e.* shown just, or by words condemned.

III. SIGNS AND PARABLES. (38—50.) Jews asked sign. Had they had none? Christ's life, words, miracles all bore witness. But they wanted sign from heaven, like manna, etc. Christ names three persons :—

(a) Jonah in fish; Christ in grave.

(b) Men of Nineveh repented—Jews do not at preaching of greater than Jonah.

(c) Queen of Sheba listened to Solomon—Jews do not to Him, far more full of wisdom.

They must take care. In awful danger of falling away from grace. A heart once taught, but empty of prayer and God's Spirit, becomes seat of worse passions than before. Its end ruin.

Now His mother and brethren seek Him. Notice—

(a) She sought Him when a child in Temple.

(b) She seeks Him now to hear His words.

(c) She will seek Him when dying. (St. John xix. 25.)

Who are Christ's true brethren? Those who learn of Him—own the same Father—seek to do God's will. Can that be said of us?

PUBLIC OPINION.

It is estimated that 75 per cent. of the ladies engaged in teaching get married after they have taught three years, 90 per cent. after five years, 95 per cent. at the end of ten years.—*Exchange.*

THE following list, obtained from the latest calendars, shows the number of women students at the end of last session in the Arts faculties of the universities named :

Queen's College, Kingston ..	15
Victoria College, Cobourg . . .	16
University College, Toronto . .	27
Dalhousie College, Halifax ..	34
McGill College, Montreal	100

MCGILL UNIVERSITY has this year 564 students in attendance, 300 of whom are in the Faculty of Arts. In 1859 the number of arts students was 60; in 1869, 78; in 1879, 149. New and commodious rooms have been provided in the east wing for the Fa-

culty of Applied Science, including three class-rooms and a large and comfortably fitted up drawing room, with light from above.

THE Code, according to the *Daily News* (in other comments on the same subject), is acknowledged to be far from what it should be, and the London School Board has an exceptional opportunity for knowing where it is at fault. We want men of business, says the *Daily News*; men who understand the problems they will have to deal with, and, above all, men of tact. Thanks to the carelessness of the electors in the past, the new Board will have a hard task in healing the breach between the teachers and themselves. London must awake to the vast interests at stake, and see that the education of its children is committed to those who will discharge their trust in the

pure and noble manner which befits their high function—men who are filled with enthusiasm for their work, who know where the needs of to-day differ from the wants of a pre-scientific age, and who will aim steadily at the embodiment of wise reforms. This is sound doctrine, and we trust that our readers will exercise all their influence to secure this kind of members for the Board.—*The Schoolmaster.*

Principal Grant saw much to admire in our national system of education. It was costly, no doubt, but perhaps it had to be, and perhaps was fully worth the expenditure. Without committing himself to any very great criticism on our system, he feared that it was likely to have the effect of making both parents and children hold education cheap, and to take less interest in it than they might. The whole was paid for out of the consolidated revenue of the country. If that were done wholesale in great Britain, as here, what sort of an educational bill would Great Britain have to pay? He favoured, as an incentive to letting careless people know that education was a duty, defraying the cost by a local rate, and, if absolutely necessary, by small fees.—*The New Zealand Schoolmaster.*

ONE of the public writes to the *Sheffield Telegraph* on the work of instruction, and the editor has indicated his opinion by the title he places over it: "A Stupid School System." Says the correspondent: In addition to the cramming and levelling-up process practised in elementary schools, there is another fault belonging to the system that has not hitherto been taken sufficient notice of. I refer to the inability of pupils, who have passed all the "standards" even, to apply their arithmetic to the practical purposes of every-day work. If you tell

a smart pupil that "four rabbits are worth five chickens, and fifty-one chickens are worth £3 1s. 7½d., and ask him the value of sixty-eight rabbits," thereupon (*vide* school book) he will probably rattle it off for you by the orthodox rule that no human being but the schoolmaster comprehends or uses, for no such questions ever arise in the business of this world, nor are likely to arise in the next; but if you put a foot rule into the hand of the same pupil and ask him to measure the door and give you its dimensions, a heap of ashes in the back yard, or the number of square yards in his mother's little potato patch, he will be "as fast as a church." Will it be credited that I have repeatedly examined pupils, and even pupil teachers that have been passed by Inspector Blackstone in such simple problems as these, and found them helpless to solve them. I would almost undertake to go into any school, and with such simple questions "floor" the pupils one after the other in a way that would appal an inspector.—*The Schoolmaster.*

A COMPLAINT which has long risen from the teachers of our best elementary schools, and which has been more or less articulate among head-masters and schoolmasters generally, finds strong and most influential expression in the November number of the *Nineteenth Century*. Under the heading of "The Sacrifice of Education to Examination," the *Nineteenth Century* publishes "a signed protest against the mischief to which the system of competitive examinations is running in this country." To this important declaration 413 signatures are attached, of which 376 are unreserved and 37 are given "with some reservations" to be made known hereafter. Among these signatures are those of twelve members of the House of

Lords, including a bishop, seventy-five members of the House of Commons, a large number of university professors and lecturers, masters of public schools, leading examiners, teachers of all grades, scientific men, authors, and many others well known

in educational matters. All these join in protesting against "the dangerous mental pressure, and misdirection of energies and aims, which are to be found in nearly all parts of our present educational system.—*Educational Times.*

NOTES FOR TEACHERS.

THE LETTER Q.—There are four words known to us in which the letter Q is not followed by U: "Qadus," a hill plain in Eastern Asia; "Qahe-rah," another name for Cairo; "Qene," the same as the word Keuch; and "Qoceyr," a synonym Coseir. Do our readers know of any others.

THE HIGHEST TIDES.—The height to which the tides rise (says *Tit Bits*) depends upon the form of the shores and bottom of the sea, and the direction in which the wave strikes the land. In the Bay of Fundy, so well calculated by the contour of its coast and the surface of its bed to retard progressively the march of the tide, the difference between high and low water, which is about 9 feet at the entrance, gradually increases to nearly 69 feet towards the extremity of the channel. The highest tide is at Annapolis, a town on the mouth of a river of the same name, flowing into the Bay of Fundy, where it rises to a height of from 100 to 120 feet. The whole of the tide wave between Halifax and Charleston is made to converge by the shores of Nova Scotia on one side and the United States on the other, to the entrance of the Bay of Fundy. A ship has been known to strike and remain fixed on a sunken rock at high water there during the night, and at daybreak the crew have been astonished to find themselves looking down a precipice into water far below. The tide in the Bristol

Channel has been known to rise 70 feet, but its usual rise is not above half this.

THE drift of public discussion in England, not only among scientists, but also among athletes and others interested in physical training, seems to be against the acceptance of Prof. Roy's defence of stays and corsets, at the recent meeting of the British Association. Some of the leading journals of London were instant in their approval of Professor Roy's theories; but where they have done so, immediate protests have come from their readers. *The Spectator*, for instance, in a recent number, after quoting Professor Roy's assertion that the desire for waist-belts is instructive, and has been displayed by all athletes and persons of whom exertion is required, since the beginning of history, adds, "It will be observed that this argument, which is certainly true of all runners, Asiatic or European, applies to men equally with women, though men gird themselves only to meet special calls upon their strength." To this a recent graduate from Cambridge, where he was distinguished as a runner and long distance bicycle rider, protests that neither runners nor experts upon the wheel, at that university, ever used, or showed a desire to use, tight waist-belts. On the contrary, it was their custom to gird themselves as loosely as possible in order to allow free movement of the

diaphragm. If rowers even wear waist-belts, they are so loose as to cause no interference with the freest movements of all the muscles of the body. It is probable that the habit of "girding up the loins" preparatory to physical exertion originated in Oriental countries, where in ancient times, and now as well, the peculiar form of the prevailing costume made it necessary in order to secure free movement of the limbs. A custom once established needs no further explanation. It may survive long after there is any reason for it. The Hittites wore peaked-toed, turned-up shoes thousands of years after their ancestors had come from the mountains of the north, where the form of their snowshoes suggested the peculiar fashion; and the daily life of every people is full of instances that might be cited. Nobody to-day places restraint upon any of his organs if he desires to excel in feats of strength or speed. He may wear a waist-belt, but it is never so tight, as has already been remarked as to rowers, as to interfere with the free play of the muscles.

CLIMATE AND TEMPERATURE.—From the report of the Dominion Meteorological Service for 1887 we glean the following information: The sun is above the horizon each year 4.463 hours, its influence being chiefly felt in July. Pembroke is the coldest point in Ontario from which reports have been obtained, and Windsor is the warmest. The difference in mean temperature between those two places is about eleven degrees; yet Pembroke had more hours of sunshine than Windsor—Windsor having 2.019 and Pembroke 2.311. The hours of sunshine in some other towns and cities are shown to be—out of a possible 4.463—Barrie, 1,629; Stratford, 1,784; Kingston, 1,941; Toronto, 2.041. In July, Toronto had an

average of ten hours a day of sunshine, and in December, a little more than an hour and a half. On the whole the rainfall appears to be rather becoming less and the snowfall increasing. Thunder storms less frequent; but the mean temperature since 1880 only varies by about five degrees, ranging from 46 to 41. There is every reason to infer from a general view of these statistics that if the climate is changing—as some suppose—it is for the better.

FITNESS FOR TEACHING.—The very basis of fitness for teaching, so far as it can be gained from study, is a broad and accurate scholarship. To be a teacher one must, first of all, be a scholar. So much stress is now placed on method, and the theory of teaching, that there is great danger of forgetting the supreme importance of scholarship and culture. For these there is no substitute; and any scheme of professional study that is pursued at the expense of scholarship and culture, is essentially bad. To be open-minded and magnanimous, to have a love for the scholarly vocation, and a wide and easy range of intellectual vision, are of infinitely greater worth to the teacher than any authorized set of technical rules and principles. Well would it be for both teachers and taught, if all teachers were inspired by Plato's ideal of the cultured man: "A lover, not of a part of wisdom, but of the whole; who has a taste for every sort of knowledge, and is curious to learn and never satisfied; who has magnificence of mind, and is the spectator of all time and all existence, who is harmoniously constituted; of well-proportioned and gracious mind, whose own nature will move spontaneously towards the true being of everything; who has a good memory and is quick to learn; is noble, gracious, the friend of truth, justice, courage, temperance."

EDITORIAL NOTES.

WITH this number the CANADA EDUCATIONAL MONTHLY completes its tenth volume. We wish to cultivate the grace of modesty, but truth makes us say that the future writer of Canadian history will find much material ready to his hand in the pages of this magazine. By the cheering words spoken and the kindly notices sent us, we feel assured that we have both benefited and gratified very many members of our profession. We thank all our friends, liberal and able contributors, and hope that for years to come they will show the same active interest on behalf of the magazine. The annual payment for THE MONTHLY is only \$1.00. Will our subscribers kindly remit promptly and help the cause of education effectually by getting all their friends to become supporters of a magazine which is acknowledged by all to be a creditable representative of the educational standing of Canada. Merry Christmas.

COLLEGE AND SCHOOL.—For some time past we have been making arrangements to publish brief notices of the beginnings of the education of our people in Canada. As an evidence of our success in this, the Rev. Dr. Gregg kindly furnishes a sketch of the origin of Knox College. Another valued contributor has, with equal kindness and readiness, undertaken to do for the Church of England in Canada what Dr. Gregg has begun for the Presbyterian. Similar brief sketches will follow like work done in this important field by the other adherents of the Christian Church. In this country, as in other countries, efforts for the education of the people have always, in the first instance,

been made by the Church, and, we take it, that it is of interest and value to preserve a record of the workers and the work done. For the same reason we wish to publish sketches of the grammar or other schools in different parts of Canada. We hope to have the hearty co-operation of the teaching profession in making this part of the magazine as interesting as it will be valuable. The true educator will thank Sir Daniel Wilson, president of University College, for putting on record, however briefly, his ideal of the spirit and aim which should animate the teacher, whether he be in school or college.

“It is satisfactory to find that, in spite of the depreciatory criticisms constantly made on English education as compared with foreign educational systems, foreigners find something in our system to copy. M. Buisson, the Director of Primary Education in France, has asked for and obtained 5,000 francs to found prizes for the best practical works on the organization of school games similar to those which are played in England. There can be no question that games are infinitely superior to gymnastic exercises, however scientifically devised, as a mode of physical exercise, to say nothing of the advantages that games present for the cultivation of self-control, generosity, pluck, and other manly virtues. There is a great risk just now lest we should, in our desire to meet the demand for Evening Technical and Continuation Schools, rob our youth of the opportunities they need for physical culture. It would be a sorry change to sacrifice the physique of the rising generation

of the working classes for the sake of specialized knowledge which ninety-nine out of a hundred could never utilize. Games should be encouraged side by side with intellectual culture, and our educational efforts should aim at producing healthy developed men rather than mere instruments for the more effective production of wealth."

To the above the editor would add the statement that it has been found to be a fact that the recruits for the army in Great Britain are able to endure far greater fatigue than the recruits in France, where so much attention has been given to gymnastic exercises. Good use can be made of gymnasiums, but they can easily be abused.

THE annual meeting of the trustees, both for High Schools and Public Schools, was held last month in the city of Toronto. There was a good representation of the trustees of Ontario, though it was not large. The attention of the convention was chiefly occupied by two questions: the retention of the Fifth Book class in the Public Schools, and how to get more financial support for the High Schools. Many of the trustees present urged strongly that the Public School should furnish such an education as would fairly equip a lad for the discharge of his duties as a citizen: that this is the proper function of the Public School.

The basis upon which our schools rest is that they are so officered as to supply to every child the opportunity of securing such an educational equipment as would prepare him for the work of life. If any one wishes to take advantage of a more liberal education, such as the High School is designed to afford, the recipient thereof must show his appreciation of the boon by contributing adequately to the maintenance of such schools. The only argument of

any weight on the other side was, the amount of money which can be saved the country by compelling all who wish to read further than the Fourth Book in the Public School to attend the High School. To meet this want some propose the establishment of a higher class of English schools in which fees are charged.

Is Canada ready for an association in which, for all practical purposes, the whole of her teaching power would be represented? It would be of great advantage to the cause of education, to the country, to have a gathering of the educators of the millions of our Canada--the first-born kingdom of the Empire. The result could only be beneficial to all personally interested.

Though we have a country 600,000 square miles larger than the United States of America--our only neighbour, without Alaska, and 18,000 square miles larger than the United States of America with Alaska, still we can now cross through its whole length on steel rails, have the advantages of the best railway service in the world, the result of Canadian enterprise and pluck. And all this in Canada, which it was the fashion, a few years since, to represent on maps as a thin strip along the northern boundary of the United States of America. Egregious folly! It would be an inspiration and an omen for good to Canada, to have at a meeting of our "Army," Sir Daniel Wilson, of Toronto University; Sir Wm. Dawson, of McGill, Montreal; the Very Rev. Principal Grant, Queen's University, Kingston; Rev. Principal Burwash, Victoria University; the Rev. Provost Body, Trinity, Toronto; Principal Harrison, University of New Brunswick; Principal Frost, of Dalhousie College, Nova Scotia, the professors of these institutions of learning, as well as inspectors,

masters and teachers of all grades of schools, from bonnie Nova Scotia to the far famed pine Province of British Columbia. The railways will give the best possible rates to carry the members to whatever spot is decided upon as the best place for such an important gathering. Let us hear from all parts of Canada on this question: our columns are open for interchange of opinion on this matter.

At the Annual Sunday School Convention, which this year met at Kingston, the fact was made public, and very emphatically lamented, that from statistics collected by the officials of the Association, it could not be said that one-half of the children in Ontario of school age attended Sunday School. Not one-half of the children in Ontario of school age attend Sunday School! If not one-half, how many? We would put the number at about 40 per cent. That is of those able to attend the schools of the country, taking 100 of them, only 40 attend the Sunday School. What say the Christian people of Ontario to this unpleasant statement? Would our readers take the trouble of thinking for a little of the circumstances of a very large proportion of our school population. Usually the Sunday School has its session in the church or in some part of the church building; the scholars live at varying distances from the church; those living within a mile may attend, but at a greater distance than a mile not many will attend, especially in winter, of which we in Ontario have each year three or four months. How many miles apart are churches in Ontario, even in the well settled parts of the province? We know Ontario pretty well, and when we project such a question and think of the truth in regard to it, we feel that there is great

room for improvement. Have we a church on an average for every ten miles? In Quebec, where the Roman Catholic Church is so powerful and so zealous, we are inclined to the opinion that it strives to have a parish church in every five or six miles distance. Whatever the truth may be as to distance, we ask our people what facilities do they offer to their children for attending school on Sunday? For obviously this has a very important bearing upon the question raised.

The teachers in our Sunday Schools are deserving of great praise on account of the work they do for the country; many of them are first-class men and women as regards their preparation and teaching power and those special qualifications are intensified by their zeal and devotion in the work which they so ardently love, and for the promotion of which they spend and are spent so willingly. But the above description does not apply to all our teachers in the Sunday School. All are zealous, but all are not well equipped. All may be willing, but all are not experienced, and never will be. In order to meet with any degree of fitness the serious problem before the country, the people must consider the question, devise liberal measures, and make proper provision for the training of the coming generation in the only knowledge which enables a citizen to do his duty, both to his country and to his Creator. The right answer to the question demands sacrifice—all good does—involves strenuous exertion and patient endurance, implies the purest and most enlightened patriotism. To give the question the satisfactory answer lays under contribution the love to the race, the love to our country, the supreme regard and devotion we give Him, whose we are and whose presence is our joy. Let no one be worried over the question,

or be deceived that it is only a question for the Episcopal Church, or for the Presbyterian Church, or any other so called church; but is plainly and emphatically the question for the Christian Church—Roman Catholic

and Protestant. Let us quit ourselves as men who have a great problem on hand requiring all the wisdom, devotion and charity of the sons and daughters of all the preceding generations of Christian workers.

SCHOOL WORK.

MATHEMATICS.

ARCHIBALD MACMURCHY, M.A., TORONTO.
EDITOR.

EDUCATION DEPARTMENT,
ONTARIO.

MIDSUMMER EXAMINATIONS, 1888.

Junior Matriculation.

MEDICINE, ALGEBRA AND ARITHMETIC.
HONORS.

1. $\frac{3987.63}{\frac{106}{100} \times \frac{106}{100} \times \frac{103}{100}} = \$3,250.57 +$

2. Book work.

3. Least Common Dividend of 113.002 and 89.604 is $\frac{113.004 \times 89.604}{.002}$

∴ Least number of sovs. =

$\frac{113.004 \times 89.604}{.002} \div 113.004 = 44802 \text{ Ans.}$

4. If the number be a multiple of 10 we know that if it be divisible by 9 the significant figures must be; hence the last digit in the quotient would be 0, which, added to the 0 in the dividend, would produce 0 (not 10), therefore the case fails.

Again, since $9 + 1 = 10$, it follows that any number added to 9 times itself produces 10 times itself, that is a multiple of 10, hence the sum of the unit digits must be 10.

5. Expression

$$= \frac{-(b-c) [bc - (b+c)k + k^2] + \&c. + \&c.}{(a-b)(b-c)(c-a)}$$

$$= \frac{-(b-c)bc + (b^2 - c^2)k - (b-c)k^2 + \&c. \quad \&c. \quad \&c. \quad + \&c. \quad \&c. \quad \&c.}{(a-b)(b-c)(c-a)} =$$

$$\frac{-bc(b-c) - ca(c-a) - ab(a-b)}{(a-b)(b-c)(c-a)} = 1.$$

6. Putting $x^2 = y^2$ in numerator we find $x^2 - y^2$ is a factor; ∴ also $y^2 - z^2$ and $z^2 - x^2$.

Same way in denominator, $x - y$ is a factor; ∴ also $y - z$ and $z - x$.

Expression becomes

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

$$= (x - y)(y - z)(z - x).$$

7. If m and n are roots of $ax^2 + bx + c = 0$.

$$m + n = -\frac{b}{a}$$

$$mn = \frac{c}{a}$$

(a) $m^3 + n^3 + 3mn(m + n) = -\frac{b^3}{a^3}$
 $m^3 + n^3 = -\frac{b^3}{a^3} + \frac{3bc}{a^2} = \frac{3abc - b^3}{a^3}$

(b) $\frac{1}{m} + \frac{1}{n} = \frac{m+n}{mn} = \frac{-\frac{b}{a}}{\frac{c}{a}} = -\frac{b}{c}$

(c) $ax^2 + bx + c = a \left(x^2 + \frac{b}{a}x + \frac{c}{a} \right) = a(x^2 - \overline{m+n}x + mn) = a(x - m)(x - n).$

7. (1) $xz + yz = c$, $xy + xz = a$, $yz + xy = b$.
 Add (1) and (2) and subtract (3);

$2xz = c + a - b$
 also $2yx = a + b - c$
 also $2zy = b + c - a$
 (1) $xz = \frac{c + a - b}{2}$
 (2) $yx = \frac{a + b - c}{2}$

$$(3) y^2 = \frac{b+c-a}{2}$$

Multiplying (1) by (2) and dividing by (3)

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

(2) Dividing 1st = n by 2nd

$$x^2 - xy + y^2 = 3$$

$$\frac{x^2 + xy + y^2 = 7}{xy = 2} \text{ solve as usual.}$$

(3) Plainly $x - a$ is a factor, for when x is put $= a$ in the left hand side it vanishes.

Other factor is $x^2 + a - \frac{1}{a}$. Put $= 0$ and solve.

(4) Divide through by x^2 and arrange thus

$$6 \left(x^2 + \frac{1}{x^2} \right) - 35 \left(x + \frac{1}{x} \right) + 62 = 0$$

$$\left(x^2 + \frac{1}{x^2} + 2 \right) - 35 \left(x + \frac{1}{x} \right) = -\frac{50}{6}$$

$$\left(x + \frac{1}{x} \right)^2 - 35 \left(x + \frac{1}{x} \right) = -\frac{25}{3}$$

Solve as usual.

8. Book work.

(a) When x is greater than a or b the fraction becomes

$$\frac{x-a}{x-b} > < \frac{a}{b}$$

$$\text{as } bx - ab > < ax - ab$$

$$\text{as } bx > < ax$$

$$b > < a$$

$\therefore \frac{a-x}{b-x}$ is $> \frac{a}{b}$ if $\frac{a}{b}$ is proper fraction

$\frac{a-x}{b-x}$ is $< \frac{a}{b}$ if $\frac{a}{b}$ is an improper fraction.

9. Book work.

(1). Required root is

$$\sqrt{\frac{a + \sqrt{a^2 - b}}{2}} + \sqrt{\frac{a - \sqrt{a^2 - b}}{2}}$$

hence, unless $a^2 - b$ is a perfect square, the expression will not be more simple.

$$(2) \frac{a + b\sqrt{-1}}{a - b\sqrt{-1}} + \frac{a - b\sqrt{-1}}{a + b\sqrt{-1}}$$

$$= \frac{a^2 + 2ab\sqrt{-1} - b^2 + a^2 - 2ab\sqrt{-1} - b^2}{a^2 + b^2}$$

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

$$(3) \sqrt{3 + 4\sqrt{-1}} = 2 + \sqrt{-1}$$

$$\sqrt{3 - 4\sqrt{-1}} = 2 - \sqrt{-1}$$

Sum = 4.

10. Let $x = A$'s rate per hour

$$y = B$$

$$x - y = 2$$

$$\frac{1}{y} - \frac{1}{x} = \frac{1}{40} \text{ Solve}$$

$$y = 8 \text{ or } -10$$

$$x = 10 \text{ or } -8.$$

CLASSICS.

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

BRADLEY'S ARNOLD.

EXERCISE 21.

1. Caesar utrum jure caesus fuerit, an nefarie necatus dubitari potest; Inter omnes constat a Bruto eum, et Cassio ceterisque qui conjuraverant Idibus Martiis occisum esse.
2. Nostri vicerint ne nepo, adhuc est incertum; sed sive vicerint seu victi sunt, certe scio eos neque sociis defuisse, nec, reipublicae.
3. Utrum hominibus nocuerit plus, an profuerit, difficile dictu est; illud dubitari non potest talem vel ingenio eum, vel rebus gestis fuisse qualem in hac vita visuri sumus nunquam.
4. Vix credi potest quoties et ego et tu istum monuerimus ne fidem falleret, sed videmur sicut heri ac pridie; ita cras nihil acturi.
5. Fac ad me scribas quando rex ad exercitum pro ecurus sit; qui nescio an consulto cunctetur ut exercitum comparet opes suas augeat; quod visor ut efficiat; homines enim aut pertimescant, aut male sentiant.
6. Monuit me nescio quis ne obliviscerer, tu quantum mihi quondam puero nocueris; quod feceris necne pulvi referi; illud mea interest, num amicus esse meus velis hodie.
7. Quam sentiret se gravi vulnere exhaustum quaesivit primum salvumne esset clipeus; salvum esse responderunt; deinde fusine essent hostes; fusos esse responsum est.
8. Nonne mori satius esset rogaverunt quam inhoneste vivere.
9. Militum is meorum mihi fuit carissimus, et nescio an unus omnium fortissimus.

MODERN LANGUAGES.

Editors { H. I. STRANG, B.A., Goderich.
W. H. FRASER, B.A., Toronto.

EXERCISES IN ENGLISH.

1. Substitute phrases for the italicized words.

(a) All his efforts to do so were *unavail-
ing*.

(b) He visits them *alternately*.

(c) I will not *oppose* the scheme.

(d) He will be *none* the worse of it.

(e) It is mentioned in the *preceding* chapter.

(f) They will have to *modify* the plan.

(g) It soon became an *intolerable* nuisance.

(h) I warned him *repeatedly* not to leave it *untied*.

2. Contract into simple sentences.

(a) I doubt whether he can carry it.

(b) He left word that you were to call for it.

(c) I made him an offer, but he would not take it.

(d) It can't be denied that he has a right to use it.

(e) He came back next day and brought the horse with him.

(f) It is to this cause, no doubt, that the failure is due.

(g) I had no further use for it, and therefore gave it away.

(h) The persons who occupied the house last did that.

3. Change from compound to complex and *vice versa*.

(a) Call for me and I will go with you.

(b) He knows less about it than you do.

(c) I hardly think the story can be true.

(d) We had not heard him and so were quite surprised.

(e) He tried several windows but none of them would open.

(f) I saw it somewhere, but I can't remember the place.

(g) I have as much right to it as you have.

(h) There may be some left, but I don't think so.

4. Change the voice of the verbs.

(a) No body has seen it since.

(b) The paper gives all the particulars.

(c) No names were mentioned in the letter.

(d) How did they get rid of the difficulty.

(e) Who selected the subject that was given them.

(f) The referee has decided that the race must be rowed over again.

5. Change to indirect narrative.

"What are you doing here?" said the officer, sternly, to the soldier. "Why are you not in your place with the rest? Do you not know that orders were issued this morning to shoot any man that deserted his post?"

6. Change to direct narrative.

The magistrate told the prisoner that he was glad to hear that she was sorry for what she had done, and that in consideration of her previous good character he would make her sentence as light as he could.

7. Break up into a series of short, simple sentences.

When he heard that the men were threatening to break into the store he telephoned to the mayor, who at once hurried to the spot and warned them of the consequences.

8. Combine (a) into a simple sentence.

He dismounted from his horse. He advanced to the gate. He was followed by a squad of soldiers. They had loaded rifles.

(b) into a compound sentence.

He heard the crash. He sprang out of bed. He dressed himself hastily. He rushed down stairs. He was just in time to see the prisoner disappear.

(c) into a complex sentence.

Money was collected for that purpose. What has become of it? Nobody seems to know. This is very strange.

(d) into a compound complex sentence.

He sent me a paper, I looked all through it. He referred in his letter to a notice in it. I could not find the notice.

9. Point out the ambiguity in

(a) It is mentioned in the last chapter.

(b) His appearance must have frightened them.

- (c) I saw the door open.
 (d) He wants to be taken care of.
 (e) Do you know how old Mr. M. is today.
 10. Correct any errors, giving reasons.
 (a) We claim that these crayons make a whiter mark, and are more easily erased than any crayons in the market.
 (b) The books are for a High School library of which he is principal.
 (c) He wanted to get you in his power.
 (d) He would not even come the length of the gate with us.
 (e) It's very remarkable the interest he takes in it.
 (f) You surely wanted to see it very badly.
 (g) I don't hardly think there is any left.
 (h) There is many other ways in which it may be done.
 (i) We will all be delighted to get home again.
 (j) It's quite likely that he intended to have paid for it.
 (k) I seldom or ever see them now.
 (l) He carried it across the room without hardly spilling a drop.

CLASS-ROOM.

ARITHMETICAL PROBLEMS.

MENTAL WORK.

1. Divide 99 apples among 3 girls and 4 boys, giving each boy 2 apples more than each girl.
Ans. Girls get 39 apples; boys, 60.
2. At \$100 per acre, find the value of a square field, the side of which is 40 rods.
Ans. \$1,000.
3. If the population of a place increases by $\frac{1}{2}$ of itself each year for 2 years, how much of the first population will it have increased during this time?
Ans. $\frac{1}{2}$.
4. A railway train left Windsor at 6.30 a.m., going 33 miles per hour. How many miles will it have gone by 3 p.m., allowing 10 minutes for stoppages?
Ans. 275 miles.
5. If 17 telegraph poles extend $\frac{1}{2}$ mile; how far are they apart?
Ans. 55 yds.

6. John spends $\frac{1}{2}$ of his money, then $\frac{1}{3}$ of the remainder, and then he has 10 cents left. How much more or less than \$1 had he at first?
Ans. 75 cents less.

7. John has \$100. If he had \$8 more he would have exactly $\frac{1}{2}$ of twice what Henry has. How much has John more than Henry?
Ans. \$62.

8. A square piece of ice, each side of which is 8 feet, is 2 feet thick. How many blocks, each side of which is 8 inches, can it be cut into?
Ans. 432.

9. James spends \$10 less than $\frac{1}{2}$ of his money, and then he has \$30 left. How much did he spend.
Ans. \$5.

10. Divide 26 yards 3 feet 8 inches into an equal number of yard, foot and inch spaces.
Ans. 20.

PRACTICAL QUESTIONS FOR THE PROFESSION.

1. What do you advise with regard to a boy who persists in disturbing the class?
2. What methods do you employ to induce children to carefully prepare their lessons?
3. In what ways do you aid the timid pupil and suppress the bold?
4. How do you avoid interruptions during lessons?
5. What influences operate most strongly against the teacher's work?

Those interested will help on the important work of this department by sending answers to any number of the foregoing questions. We wish to secure from the experience of those who have seen and tried the practical working of different methods and means, the knowledge they may have acquired, that we may make it known to others.

SUGGESTIVE QUESTIONS IN GEOGRAPHY.

1. What is macaroni, and where is it the national dish?
2. What city is the world's centre of modern art, fashion and pleasure?
3. Whence do we get bananas?

4. What town has the world-wide reputation for cutlery?
5. What country is celebrated for its oats, flax, potatoes and peat bogs?
6. Whence do we import our chief coffees?
7. In what city would you ride in a gondola instead of an omnibus?
8. In what country would you find the most windmills?
9. Locate the following: The Golden Horn, the Hub of the Universe, the Forest City, the City of the Straits, the Metropolis of America.
10. Name six fruits good to eat that grow on trees not generally cultivated in Canada.

GEOGRAPHY.

QUESTIONS ON ONTARIO.

By Mr. Elliott Richmond, Marnoch, Ont.

1. Give, minutely, the bounding of Ontario.
2. What waters would you pass through on a trip from Port Arthur to Trenton?
3. What is important about Petrolia, Madoc, Grimsby, Penetanguishene, Hamilton, Ingersoll, Sudbury?
4. Locate Rat Portage, Walpole, Silver Isle, Fort William, Grand Island, Algoma Mills, North Bay.
5. Commencing at Ottawa, take a trip to each of our cities, mentioning the railways passed over.
6. Where are the Dominion Parliament Buildings, Normal Schools, Agricultural College, Penitentiary, Institute for the Blind, Provincial Parliament Buildings, Institute for the Deaf and Dumb, Idiot Asylum?
7. Name several places in the Province noted historically, giving positions.
8. Classify the rivers flowing into the boundary lakes.
9. Name and locate the chief occupations of the people of the Province.
10. What waters are connected by the rivers French, Severn, Muskoka, Rainy, Nipigon, Trent, Ottawa, Albany?
11. Bound your own county and name the railways passing through it, with the stations on each.

12. What are the chief products, minerals, imports and exports of the Province?
13. Name places where the following are manufactured;—Agricultural implements, organs, boots and shoes, railroad cars, pianos, cottons, woollens, paper.
14. What localities in Ontario are noted for natural scenery, timber, summer resorts, hunting grounds, mines and fishing?

EDUCATION DEPARTMENT,
ONTARIO.

MIDSUMMER EXAMINATIONS, 1888.

Third-Class Teachers.

DRAWING.

NOTE.—The candidate may do Nos. 1 or 2, 3 or 4, 5 or 6, 7 or 8, 9 or 10. Not more than five questions are to be tried.

1. Draw in outline a symmetrical heart shaped form, 3 inches high, and within it a similar form $\frac{1}{2}$ inch from it at every point.
2. Draw a bilateral ornament 3 inches high, using a conventional form of the leaf, flower, and bud, of any familiar plant.
3. Draw a circle 3 inches diameter. Within it inscribe a square. Within the square draw four equal circles, each touching two adjacent sides of the square and the two adjacent circles. Within each circle draw a concentric circle $\frac{1}{2}$ inch less in diameter. By the aid of these circles make an endless interlacing band.
4. Construct a regular pentagon with sides of two inches, one side to be horizontal. Quadrisection each side. Draw the cinquefoil, using the two inner fourths of each side as the base of the curve. Strengthen the part of the sides of the pentagon between the angles and the curves. Fill this outline with geometric forms, introducing radiate regular repetition.
5. Height of spectator 5 feet; distance, 16 feet; scale $\frac{1}{4}$ inch = 1 foot.
Place in perspective a square plinth of 4 feet edge and 1 foot thick. One oblong face parallel with and touching picture plane and having its nearest corner 4 feet left of specta-

tor. On top of this plinth and centrally placed is a square pyramid of 2 feet edge and 5 feet high.

6. Draw, freehand in horizontal perspective, a box 3 feet long, 2 feet deep, and 1½ feet wide, showing the front and right end, the lid being hinged to the far edge and open at an angle of about 45° with the plane of the base of the box. Scale 1 inch to a foot. Thickness of material not to be indicated.

7. Draw, freehand, a book 3 inches long, ¾ inch thick and 2 inches wide, showing the back, the right end and the top (or upper surface of cover): (1) In parallel perspective, (2) in angular perspective.

8. Draw the appearance of a circle of 2 inches diameter,

(a) When horizontal, in front of and level with the eye;

(b) When horizontal, but below level of the eye;

(c) When horizontal, but above level of the eye;

(d) Show the application of the above in drawing the perspective of a cylinder 2 in. high, 1 in. diameter, standing on one end,

(1) With level of eye at half height of cylinder;

(2) With upper end of cylinder below level of eye;

(3) With lower end of cylinder above level of eye.

9. Draw a "plain" scale to show feet and inches, so that every portion of a drawing worked from it shall be ¼ full size.

10. Draw a "diagonal" scale to show tenths and hundredths.

LATIN AUTHORS.

Examiners: J. E. Hodgson, M.A.
M. J. Kelly, M.D. LL.B.

NOTE.—Candidates will take A and either B or C.

A.

1. Mark the quantity of the penult in:—
reliquus, minus, persuadent, omnino, transitur, iter, locus, tempore, impeditos, rapina, fugitivos, nuper.

2. Give the etymology of: *agmen, altus, bellum, biduum, comminus, concilium, copia, debco, dirimo, fossa, nobilis, nuper, triplex, ullus.*

3. Distinguish: *jus, lex; nuber, in matrimonium ducere; summus mons, altissimus mons, agmen, acies, exercitus; via, iter; sarcinae, impedimenta; remoto sub equo, remoto ejus equo; latus, latus.*

4. (a) *Id hoc facilius eis persuasit quod undique loci natura Helvetii continentur.*

(1) Who is referred to by the subject of *persuasit*?

(2) To what does *id* refer?

(3) *Undique . . . continentur.* Give the boundaries.

(b) *Neque homines inimico animo, data facultate per provinciam itineris faciundi, temperaturos ab injuria at maleficio existimabat.*

(1) Explain the construction of the italicized words.

(2) *Existimabat.* Give the force of the tense.

(c) *Et opere perfecto, presidia disponit, castella communit, quo facilius, si se invito transire conarentur, prohibere possit.*

(1) State the rule for this use of *quo*.

(2) *Se invito.* Explain the construction.

(3) *Conarentur.* Account for the tense.

(d) *His quum sua sponte persuadere non possent, legatos ad Dumnorigem Aequum mittunt, ut eos deprecarentur, a Sequanis impetrarent.*

(1) Explain the construction of the italicized words.

(e) *Aequi quum se suaque ab iis defendere non possent, legatos ad Cæsarem mittunt rogatum auxilium.*

(1) *Rogatum auxilium.* Substitute three other equivalent expressions.

(f) *Ita dies clavier quindecim iter fecerunt, uti inter novissimum hostium, agmen, et nostrum primis non amplius quibus aut senis millibus passuum interesset.*

(1) Explain the construction of the italicized words.

- (2) *Intercessit*. Why is the subjunctive?
 (3) *Quinis*. Why is this form of the numerals used?

(4) Publius Considius, qui *rei militaris peritissimus* habebatur, et in exercitu Lucii Sullæ, et postea in Marci Crassi fuerat, cum exploratoribus *pœnititur*.

(1) Explain the construction of the italicized words.

(2) *Publius Considius*. Write the vocative form.

(4) Quot ubi Cæsar resciit quorum per fines ierant, his, ulli conquirerent et relacerent, si sibi purgati esse vellent, imp'avit.

(1) *Quorum*. What is the antecedent?

(2) Rewrite the sentence substituting *jussit* for *imperavit*.

5. (2) Give a brief sketch of the life of Julius Cæsar.

(3) What does he gain by narrating his exploits in the third person?

FRENCH AUTHORS.

Examiners: } J. E. Hodgson, M.A.
 } Cornelius Donovan, M.A.

NOTE.—Candidates will take A and either B or C.

Translate into idiomatic English: Elementary French Reader—*Entrée dans le Monde*.

1. Parse fully the italicized words. In parsing, verbs the principal parts are to be given.

2. Supply the ellipses in the following:—
 "Monsieur Alexandre Dumas?"

- "Comme son fils."
 "Tout ce que voudrez, général."
 "Oh! pas à grand'chose!"
 "Un peu de mathématiques?"
 "L'Italien assez bien."
 "Pas les moins du monde."

3. *Oui, général*. Substitute a sentence for *oui*.

4. *J'en serais heureux*. To what does *en* refer?

5. Give the corresponding subjunctive form of: *je me présentai il se retourna, C'était un brave, Voisont, vous avez fait votre devoir*.

6. Repondiz *je* langues vivantes, donnez-moi. Account for the position of the italicized words.

7. Indicate the pronunciation of *filz, chef, mot, chez*.

B.

Translate into idiomatic English: Elementary French Reader—*La Cigale et la Fourmi*.

1. What lesson as to conduct is this selection intended to teach?

2. Give the opposite gender form of: *voisine, nouvelle, pitieuse, cette emprunteuse*.

C.

Translate into idiomatic English: Elementary French Reader—*Le Corbeau et le Renard*.

1. What lesson as to conduct is this selection intended to teach?

2. Give the opposite gender form of: *maitre, joli, belle, fou, flatteur*.

CONTEMPORARY LITERATURE.

THE current *Table Talk* is a Thanksgiving number, well suited to be a help and guide to those interested in culinary and household topics. *Menus* are given for every day in the month, papers on "The Orange," "Ancient Thanksgiving Days," "How to live on a Thousand a Year," etc. This magazine, we are sure, is prized by housekeepers, who know it.

THE numbers of *The Critic* for 1888 have been filled with reading and criticism such as one finds in no other paper in America. All the noteworthy books and many others are reviewed there and receive, nearly every one, agrees, the treatment they respectively merit. Our friend, "The Lounger," writes as well as ever, and the "Notes" were never fresher.

THE opening article of the latest *Overland* is on "The Eucalyptus Tree." Among other important contributions we notice one on "The Ramabal Movement," and another on "Women on School Boards."

Captain King's new novel, "Dunraven Ranch," is printed in the December number of *Lippincott's*, and a biographical sketch of this American military man and author, with a portrait, also appears. Three short poems, one of them—"To all Women" (by Amélie Rives), John Habberton's humorous "Six days in the Life of an ex-Teacher," and an article on "Trust Companies" help to make up a good number.

The Popular Science Monthly for December is an important number. Some fourteen articles are presented to the reader, among which the opening one, on "The Psychology of Deception," one by Grant Allen, on "Evolving the Camel," and another, on "Infant Mortality," by Dr. French, may be specially mentioned. Mr. D. D. Daly, Assistant Resident, writes of "Native life in British Borneo." The Editor's Table has an interesting reference to "Work at the Lick Observatory."

A SECOND edition of the November *Book-buyer* has been issued by the publishers, Charles Scribner's Sons. It contains portraits of Mrs. Humphrey Ward, author of "Robert Elsmere," and of Margaret Deland, author of "John Ward, Preacher," both accompanied by biographical sketches. Some thirty pages of literary news make up the rest of the magazine. The publishers will shortly issue a beautiful Christmas number of 144 pages.

A RECENT issue of the *Illustrated London News* contains sketches of scenes at the "Parnell Enquiry Commission," and other things of interest in England. Other pictures are of the journeys of the German Emperor in Europe, the British Administrator in Bechuanaland, etc. There are also articles and illustrations in connection with the Bi-centenary of the Revolution of 1688. The department entitled "Our Note Book," by James Payn, is always readable.

THE December *Quiver* is an excellent number, furnishing many attractive articles of permanent value. A coloured frontispiece brightens the opening page. An article on the public work and private life of the Rev. C. H. Spurgeon will have no lack of readers, and another on a "New York Philanthropist"—(Henry Bergh), is also well worth reading. We are glad that the circulation of the *Quiver* is rapidly increasing.

THE *Missionary Review of the World*, edited by Dr. Pierson, of Philadelphia, and Dr. Sherwood, of New York, has just completed its first volume, and enjoys already a large measure of sympathy and support. Its pages are full of information about the mission fields of the world, and few people who are interested in missions would be willing to part with it. Under the heading, "Literature of Missions," the December number gives nine articles, one of them on "Miracles of Missions" being from Dr. Pierson's pen. Twenty one societies are represented in the next department, which is entitled "Organized Missionary Effort." The remaining departments are also well sustained.

Lippincott's Science Series. Botany. By Annie Chambers-Ketchum, A.M. 192 pp. \$1. (Philadelphia: The J. B. Lippincott, Company.) School books now are growing attractive in style and binding—a good example is this Botany with its numerous illustrations and fine letter-press. The author follows the inductive method of M. Antoine de Jussieu, and has succeeded in preparing a botanical text-book which, though almost too brief in the treatment of some parts of the subject, is nevertheless well fitted for use in schools and colleges.

Natural History Readers. No. V. By the Rev. J. G. Whod, M.A. (Boston: The School Supply Company.)

The Riverside Literature Series. No. 37. A-Hunting of the Deer, and other essays. By Charles Dudley Warner. No. 38. *The Building of the Ship, and other poems.* By H. W. Longfellow. *Extra No. Literature in School.* By H. E. Scudder. (Boston: Houghton, Mifflin & Co.)

A College Algebra. By Prof. Wentworth. (Boston: Ginn & Co.) Pp. 494. After a brief review of the principles of elementary algebra, the author devotes the remaining space to the treatment of quadratic equations, the binomial theorem, choice, chance, series, determinants, and the general properties of equations. The treatment of each subject is full and systematic. Answers are published separately, and only supplied at the request of teachers.

A Preparatory French Reader. By Prof. Super. (Boston: D. C. Heath & Co.) Pp. 224. The appearance of this new French reader is pleasing, the type and arrangement being excellent. It is divided into three parts, containing respectively short tales from Hans Christian Andersen translated into French, selections from Erckman-Chatrian, Dumas, Daudet, etc., a longer selection, and several short poems. Notes and a vocabulary are added.

A First Book in German. By H. C. G. Brandt. (Boston: Allyn & Bacon.) \$1. In this text book Part I. of the German grammar by the same author and Ledeman's Exercises are issued together, for the use of pupils in secondary schools who have already made some progress in German. Complete English-German vocabularies are supplied. We are sure this book, which has been thoroughly revised and carefully prepared for students, will be found a good one.

Principia Latina. Part IV. An introduction to Latin Prose Composition. By Dr. Smith. (London: John Murray, Albemarle St.)—Dr. Smith is well known as the author and editor of numerous dictionaries, and other books for the use of students, several of which are largely used in Canada. The present is the seventeenth edition of Part IV Principia Latina, and consists of a complete series of exercises, to each of which is prefixed the syntactical rules illustrated and enforced by the exercise. The special detailed treatment of synonyms and grammatical difficulties is a noteworthy feature, and we recommend this book to our readers as a scholarly and valuable production.

The Clarendon Press Series. Elementary Chemistry. By W. W. Fisher, M.A., F.C.S. (Oxford: At the Clarendon Press; London: Henry Frowde.)—Mr. Fisher has prepared a very valuable compendium of the fundamental laws, principles and facts of chemical science, and has arranged this material in a skillful manner as a class book. Much attention is wisely devoted to general chemical phenomena, water, air, laws of chemical action, etc., and the author has diligently availed himself of what has been brought to light by recent researches.

Popular Poets of the Period. Nos. 1 and 2. 6d. each. Edited by F. A. H. Eyles. (London: Griffith, Farran & Co.) Among the authors represented in these little books are Lewis Morris, Sir Edwin Arnold, Dean Pumptre, Rev. Newman Hall, Coventry Patmore and Isabella Fyvie Mayo (Edward Garrett.) The biographies are interesting and well written, and the specimen poems added are in the best sense popular, and frequently suitable for recitation. It is to be regretted that many of our living poets are so little known, and we hope Canadian teachers will avail themselves of these helpful books.

A Popular History of England. By H. W. Ducken, Ph.D. (London: Ward, Lock & Co.) Pp. 536. This history is written in a popular style, and is profusely illustrated. Two good features about the book are the large space devoted to the history of our own time and the attention given to the interests and progress of the great British colonies. We observe (p. 508) that the Fenians gave up the idea of invading Canada on March 17, 1866, and as no mention of Limeridge occurs, we conclude that the author thinks they did not come at all. But we should hardly find fault with a book which, on the whole, is so satisfactory.

Practical Exercises in English Composition. By H. I. Strang, B.A. (Toronto: Copp, Clark & Co.) The readers of the MONTHLY will be glad to hear that Mr. Strang has re-published, in book form, the valuable *Exercises in English* which have

for some years been a feature of our School Work Department. He has done so at the urgent and repeatedly expressed wish of our subscribers and the teaching profession generally. We gladly avail ourselves of this opportunity of expressing our appreciation of the assistance which Mr. Strang has thus rendered to the profession, and our conviction that the book will meet with a cordial reception.

The Commentaries of C. Julius Caesar. The Gallic War. Edited by Charles E. Moberly, M.A., Assistant Master in Rugby School. (Oxford: At the Clarendon Press; London: Henry Frowde.) Pp. 351. With maps, index, etc. This excellent school edition of Caesar's Gallic War gives the text, clearly printed and carefully punctuated, also the Supplement of Hirtius, and about one hundred and fifty pages of notes. In the latter, peculiarities and difficulties are

dealt with and explained in a scholarly and satisfactory manner. An appendix on the Roman Military System and an article on the mode of translating Caesar will repay perusal.

Elementary Statics. By the Rev. J. B. Lock, M.A. (London: Macmillan & Co.)—Teachers of mathematics will welcome another text book by this well known and esteemed author. The present book has been prepared with special reference to the requirements of students going up for the Oxford and Cambridge certificate, for Woolwich, for London Matriculation and for similar examinations. A considerable portion of the book may be read without a knowledge of trigonometry; the examples are not too difficult; the explanations are very good; in short, it is not too much to say that everything which the author and publisher could well do for the student of elementary statics has been done here.

I LOVE thee in the Spring,
Earth-crowning forest! when amid the shades
The gentle South first waves her odorous
wing,
And joy fills all the glades.

In the hot Summer time,
With deep delight, the sombre aisles I roam,
Or, soothed by some cool brook's melodious
chime,
Rest on thy verdant loam.

But O, when Autumn's hand
Hath marked thy beauteous foliage for the
grave,
How doth thy splendor, as entranced I stand,
My wilting heart enlave!
—*Wm. Jewett Pabodie.*

THERE'S music in the sighing of a reed;
There's music in the gushing of a rill;
There's music in all things, if men had ears;
Their earth is but an echo of the spirit-reed.
—*Byron.*

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The Editor will always be glad to receive original contributions, especially from those engaged in the work of teaching.

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