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THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL MAGAZINE.

NOVEMBER, 1888.

UNIVERSITY COLLEGE.

PRESIDENT SIR DANIEL WILSON'S ADDRESS.

ONCE again we assemble as a university to enter on the work of the academic year, and to welcome those who have a pre-eminent claim on our interest as the representatives of its future. When upwards of a quarter of a century ago the youthful heir of the throne was welcomed in this hall by the undergraduates of that time it was with the gracefully significant salutation: *Imperii spem spes provincie salutat*. In the intervening years some, at least, of that hope has been realized. Young as this university is, we are able to appeal with pride to a goodly list of alumni who have turned to wise account the advantages here enjoyed, and have reflected honour on their alma mater. Our experience as a university is thus far but a reflex of that of the young province itself. What we have accomplished is only the blossoming of an early spring. We dwell on the present chiefly for the promise it unfolds; though I could wish myself young again, that I might witness such another period of progress as I have shared in since this univer-

sity was left free to develop itself as a national institution. We are indeed reminded in very diverse ways that the symbolic tree of our university crest is still but a sapling. Our earliest graduates very recently joined with those of later years in paying their last tribute to the distinguished scholar who first filled this presidential chair; while invitations come to us from one after another university—some of them young in the reckoning of academic life—asking us to unite with them in their grateful retrospect of centuries that have elapsed since their foundation. In 1884 the University of Edinburgh invited the representatives of kindred institutions to join in the tercentenary celebration of its founding. Two years later Harvard recalled the humble beginnings of the first new England University two and a half centuries before, and the present year has outlived all preceding anniversaries in the festivities by which the venerable University of Bologna celebrated the completion of eight hundred

years since its inauguration as the cradle of reviving Italian letters.

Compared with even the youngest of those centres of academic culture we are but of yesterday. Yet, if we study minutely their early history, it is unquestionable that our advantages have been greater than theirs; greater in a generous endowment, inadequate though we already find it; greater by reason of privileges due to a century so rich in scientific discovery, and to a period animated by a rare sympathy with education as the handmaid of constitutional freedom. The history of this university is identified with successive stages of progress, from the first settlement of Upper Canada to the federation of the provinces of British North America into the Dominion. The varied phases thus presented are indeed noteworthy, considering the brief term of our existence. The student who reverts to the Royal Charter given by the last of the Georges, in 1827, might fancy it to be venerable with the dust of feudal centuries. The spirit in which revision was undertaken in 1857 marks the rebound of an emancipated community in the first consciousness of constitutional freedom, while in more recent legislation we welcome the triumph of wise moderation, combined with the liberality of a people who have outgrown the restraints of narrow sectarianism, without lessening their hold on the moral elements essential to healthy national life.

The experience of a lifetime, in which I have watched the progress of higher education under diverse systems, both in the Old and the New World, has amply confirmed my early convictions in favour of national education in the widest sense. The universities of Europe were the nurseries of learning and their work is not yet done. The busy world is engrossed with the strife of politics, the preoccupations of industrial toil and the eager

pursuit of wealth. It stands as much as ever in need of such quiet retreats for the student and for the youthful learner in training for his share of its engrossing cares. I rejoice in the evidence which becomes yearly more apparent, of the appreciation of the influence this university already exercises on the thought and life of the community. It is not, indeed, to university trained men that we must wholly look for the fruits of that influence which radiates from such centres. Shakespeare "had small Latin and less Greek;" neither Gibbon nor Grote won a university degree. The names of Franklin, Watt, Faraday, Stevenson and many others who have achieved like triumphs, appear on no graduate roll. Nevertheless they could not have accomplished what they did, had it not been for the influence of those academic haunts where intellect is left free to accumulate the resources of learning and the fruits of experiment for the use of all. There moreover, the bias is given to many a bright intellect, ignorant as yet of its own powers, or of the wise uses to which they may be directed. It is, indeed, not the least among the grave responsibilities that rest upon the faculty, as each year we welcome the new entrants who crowd our halls, to realize how largely our influence may determine their future career. Returning from my summer holidays I noticed as we passed on to the track of the Canadian Pacific railway that it depended on the turning of a switch by only a few inches to right or left, whether we should continue our journey by the valley of the St. Lawrence to the Atlantic, or pass by the trans-continental line to its terminus on the shores of the Pacific ocean. Even so is it with you who are now welcomed to the privileges of undergraduates of this university. On a choice which may seem at the moment as insignificant as the inclining of the railroad.

switch an inch or two to the left or to the right, may depend the whole character of your future career. And realizing as we do the grave issues dependent on the bias given at this critical stage, I congratulate you, as I congratulate this university, on the successful organization of our Young Men's Christian Association, with its efficiently equipped buildings on the college grounds, and its healthful, moral and religious influences permeating our whole academic life. I have found its operations most helpful to myself in the work of the college, and I cannot doubt that many will, in later years, revert to its timely influence as having helped to arm them with the courage which sustained them in nobility of aim and purity of life.

If we take a just pride in the honours won by our alumni we feel no less keenly any case of moral failure. Let the thought be both a stimulus and a warning to every undergraduate that as the successful student, who wins distinctions for himself, reflects honour on his alma mater, so the idler who neglects his opportunities and squanders the irrevocable hours of undergraduate life in folly or dissipation does a wrong to his fellow-students and brings discredit on his university. On the use made by you of the priceless advantages here placed within your reach will largely depend your power to avail yourselves of future opportunities as they arise. This is a theme that is ever new, as we welcome fresh entrants to replace the graduating class that now goes forth with our best wishes. But also each year brings to the front some novel aspect claiming special attention, and by its very novelty furnishing evidence not only of vitality but of progress.

At our last anniversary I was able to congratulate the friends of higher education on provisions in the University Federation Act which opened

the way for a more comprehensive union of the intellectual and educational forces in Ontario in the promotion of a common aim. I rejoice that now the governing body of Victoria University has definitely accepted federation, and we only wait the completion of their building to welcome her as a member of the National University. I rejoice in it above all, from the assurance that when this federal union is fully effected the cordial welcome that Victoria will receive and the free exercise of every privilege and function of an independent college of this university, which will be frankly recognized as her right, will remove all apprehension and doubt from the minds of her graduates. Were we disposed in any degree to yield to a not unreasonable impatience we might have complained of the operation of an Act which has practically abolished the Council of University College, and yet withholds the authoritative organization of the University Council to which the future discipline and government is assigned. But we have been willing to wait in the full assurance that when federation is fully effected its beneficial results will commend it to all. We have already welcomed those provisions of the Act brought into immediate operation, which restored to us the exercise of important rights and privileges conferred by royal charter sixty years before. The revived medical faculty has been brought into effective operation, and notwithstanding the unavoidable impediments incident to the resumption of such comprehensive work with inadequate accommodation and imperfect facilities, the results have so far surpassed our most sanguine expectations.

Early in the present year the necessary steps were taken for the erection of a building designed, when completed, to accommodate the science departments, with adequate labora-

tories and lecture rooms. The east wing, specially devoted to biology and physiology, is already far advanced towards completion, and before our next convocation it will be available for students both in the Faculty of Arts and of Medicine. The various important branches of science which hitherto formed a part of our Arts' Curriculum will now with greatly extended facility increase its attractions as a School of Medicine, and we can look forward to the organization of that faculty on a basis which will extend the reputation of the university and prove of lasting benefit to the Province. But enlarged laboratories and new lecturers and demonstrators necessarily involve additional expenditure. Every step in our experience accords with that of every other university in the demand for increased resources, to enable us to overtake the marvellous expansion in nearly every department of letters and science. But just at this stage, when we have been tantalized with promises based on the proposed remodelling of Upper Canada College, whereby some portion of the large sums appropriated out of the funds of this university for that institution should be repaid, we are cheered by the prospect of valuable endowments from another source. It requires a strong effort of imagination for the graduates of the present generation to realize the unfriended and seemingly helpless condition in which the new staff of professors of 1853 found the university to which they had been called. The churchmen of King's College, with the venerable bishop, under whose indomitable zeal it had been organized after a model borrowed from institutions of the Old World, which have themselves since yielded to the spirit of the age, were realizing their own ideal in the founding of Trinity College. The members of other denominations, having accomplished the overthrow of

a college which aimed at combining the irreconcilable elements of a national institution with denominational organization, had lost all faith in any rational university system, and for the most part united in a crusade for the division of the endowment among themselves. It was at this critical stage when some of the most influential among Canadian statesmen made no mystery of their willingness to abandon all idea of a national university and share the endowment (which is already found to be inadequate for one) among various denominational institutions, that a portion of the lands acquired as a site for King's College was gifted to the city as a public park. It was hoped by the alienation of a small portion of the university lands, held on such uncertain tenure, to enlist civic and popular sympathy on behalf of the university of the people. Thirty years have elapsed since that transfer was effected. Some temporary benefit was derived from the construction of needful approaches to the new university building, but otherwise we looked in vain for friendly sympathy or aid from the city fathers. The covenants of the lease were ignored and our remonstrances remained unheeded. But meanwhile we had outgrown the stage of unfriended weakness. Increasing yearly in numbers, reputation and influence, we found ourselves strong enough to assert our rights. The courts were appealed to and sustained our claim. The lease of the Queen's park was adjudged to be forfeited, and the civic authorities, tardily awakening to a sense of their loss, were preparing to take steps which threatened prolonged and costly litigation, when—happily alike for the city and the university—the civic chair was filled by a gentleman of liberal sympathies and wise discrimination. To his Worship Mayor Clarke, in co-operation with Mr. John Hoskin, one of the members of the University

Board of Trustees, we owe the arrangement of an amicable compromise alike creditable to the city and beneficial to the university. Under the conditions now approved of and only awaiting the confirmation of the Legislature, the City Council undertake the permanent endowment of two chairs, with the sum of \$6,000. The special subjects to be thus provided for have been matter of friendly deliberation with his Worship the Mayor and the members of the City Council, and I look forward with sincere gratification to the supply of a long-felt want in the founding of a chair of English language and literature.

The requirements of the ancient and modern languages have been met in some adequate degree by the appointment of lecturers and fellows in Greek, Latin, German, Italian, French and Spanish. But in the all-important department of English language and literature the long-felt need of an adequate equipment still remains unsatisfied. It is no disparagement to the lecturer in that department, to whose painstaking zeal I bear willing testimony, that, with the pass and honour work of four years, more or less incumbent on every student in some part of his course, he cannot overtake the whole. It only requires attention to be directed to the provision now made in other departments to show the necessity for additional instructors in this division of our work. The student cannot be too carefully trained to revert with the spirit of loving appreciation of the author of the "Faerie Queen," to "that renowned poet, Dan Chaucer, well of English undefiled," to learn the marvellous compass of Shakespeare, and to sympathize in the feeling with which, in a great crisis of England's history, her poet, Wordsworth, proudly reverting to the language associated no less with her political than her intellectual triumphs, exclaimed :

We must be free or die, who speak the tongue that Shakespeare spake; the faith and morals hold that Milton held.

We cannot forget, moreover, how indissolubly the history of the language is identified in all ways with that of the English race. Hence we must aim at a system of study which in its honour work shall embrace the Mæso-Gothic of Ulfphilas, the Icelandic, the Anglo Saxon of Alfred and the Saxon Chronicle; and the middle English of writers from the Ormulum and Layamon's "Brute," to Langland and Gower, as well as the influences of the Scandinavian and the Romance languages on the English grammar and vocabulary. The student who would fully understand his own language must indeed master the whole process of evolution of the English of Shakespeare, Milton, Dryden and Addison; of Tennyson, Browning, Ruskin and Arnold, from the rude inflexional dialects of the low German tribes that displaced the Romanized Britons in the fifth and sixth centuries. The comprehensiveness of this work is now so clearly recognized, that, in the best equipped universities, separate chairs are provided for the English language and English literature. If the endowment by the city of a chair specially devoted to this important work, lead to the appointment of a professor of the high character and eminent qualifications we have a right to expect, it cannot fail not only to affect beneficially the work of the university, but will react no less effectively on the public and high schools, and on the whole educational work of the Province. But, apart from the indisputable advantages which must result to the students from the additional chairs thus provided, I rejoice no less in the new and friendly relations established with the Mayor and corporation, and look forward with highest anticipations to the good fruits which cannot fail to result from the active interest they will henceforth be

led to take, not only in the special chairs founded by them in the university which occupies a place second to none among the institutions located in Toronto. Such is the estimation in which the University of Edinburgh is held by the city corporation, and though King James I. is its reputed founder, it owes far more to the liberality and fostering care of the city corporation than to royal favour. The founding of two university chairs from other sources than the provincial endowment marks a new era in our history. In no way can the patrons of learning more effectually encourage it. It would, indeed, be a singularly misleading idea to assume that because a university has been organized with a state endowment it is precluded from sharing in private beneficence. In reality, nearly every great university alike, in the Old and the New World, owes its largest resources to such beneficence. It has been wisely said that a million of dollars is a beggarly endowment with which to set up a new university, but it will furnish invaluable means of expansion to one already well organized. It is just because we are now able to overtake so much that we more than ever feel the need of additional resources. We have reluctantly acquiesced in the confiscation of our foundation scholarships in order to meet still more pressing wants. But their value as a help to higher education is more ap-

parent than ever. Mr. Leckie, in his "History of England in the Eighteenth Century," makes this comment on their approved utility under circumstances much akin to our own: "Soon after 1640," he says, "the establishments throughout Scotland of parochial schools was decreed, and, at the same time, they largely extended the system of Bursarships which has played so conspicuous a part in Scottish life, and has brought the advantage of university education within the range of classes wholly excluded from it in England." Happily there are still left to us scholarships gifted or bequeathed by generous donors, and this year our esteemed chancellor, to whom we have already been indebted for the "Blake Scholarship," has marked his approval of the newly-founded chair of political science, by placing at the disposal of the university the sum of \$2,500. to found additional scholarships in the same department of study. Only now, when the matriculation scholarships are withdrawn, will it be fully realized how valuable was that contribution from the university funds for the encouragement of advanced studies in the high schools of the Province. Yet their abolition takes place at the very time when the university is being brought into more intimate relations with the whole educational system of the Province.

(To be continued.)

A RADICAL DEFECT IN EDUCATION.

BY EXPERIENCE, LEITH, ONT.

EDUCATION is so familiar a word that its large significance is apt to be overlooked. Whether derived directly as Dr. Matthews says in "Words: Their Use and Abuse," from "*educare* which means to nourish, to foster, to do just what the

nurse does," or more indirectly from *educere*, to lead forth, the English word includes both ideas. Webster says, to educate is "to inform and enlighten the understanding, to lead out and train the mental powers, to form and regulate the principles and

character, to prepare and fit for activity and usefulness in life."

True education consists in teaching and training—the latter as much as the former, in developing and directing as far as possible the natural powers. To leave out of count the physical side of our nature, which is sadly neglected in our whole system of education, it might be expected when attention is so exclusively devoted to mental education that nothing of fundamental importance would be overlooked or neglected. But what is the fact? The fact is that one of the most valuable of our natural faculties is scarcely even recognized in ordinary methods of education, and has to depend entirely for development and direction upon chance and circumstance.

A very ancient and high authority on education, and many other subjects, emphasizing the importance of the education of the will and the development of the power of self-control has said, "better is he that ruleth his spirit than he that taketh a city." And the same writer in another place insisting on the advantage of early attention to education says, "train up (educate) a child in the way he should go, and when he is old he will not depart from it."

The natural faculty which receives the least attention in our much vaunted and many-sided education of the day is the *will*. And this is the more remarkable and the more lamentable when it is considered how much depends upon its development and direction. Without entering into metaphysics the will may be said in a general way to be the dominant faculty of the mind. Without it the finest abilities and the highest attainments are of little value. It gives practical direction to the life. With weak, untrained wills we are swayed about by our emotions, driven hither and thither by circumstances, or led

by companions whither they will. Our days are spent in dreamy reverie or in fickle sitting from one abandoned purpose to another. The weak will attempts many things but accomplishes nothing. It is the explanation not only of most of the failures in life but of much of the wickedness in the world. To succeed in life—in anything—to do right, requires a firm resolve, a steadfast purpose, a strong will; to fail is easy always. If this were generally understood and recognized parents would be found congratulating themselves on the strong wills of their children, instead of complaining of them, developing and directing instead of breaking them. As it is, the will that is strong enough to survive the vicious methods of the home is almost sure to make its mark in after years, while the weak will grows weaker still for want of intelligent exercise till it is practically worthless for any intelligent direction of the life. Of course there are a great many praiseworthy exceptions in home training, but *vicious* is not too strong a word to qualify the methods too generally followed of bringing up children. The baby from the beginning must have everything it cries for, whether good for it or not, whether convenient for the mother or others, or not. It might hurt itself, crying! And, then, it is so much easier to humour it than to teach or train it. So the foundations are very easily laid for future trouble. By the time the child is a year old, it has learned to gratify its every impulse, and has not learned the first lesson of self-control. Even then, except in rare instances, there is no attempt made to develop or direct its powers of self-control. So little is expected of children in this direction it would be wonderful if much were realized. Very often the child's first lessons in self-control are learned in the primary school when it is five or six years old, and when its

impulses have attained an altogether disproportionate development. In fact, by this time it has become a mere creature of impulse. Is it any wonder that its teacher should be troubled with its idleness, restlessness, inattention, and want of application? Is it any wonder that even intelligent teachers should so often fail to undo the mischief of years of indulgence and neglect? Or, that, with teachers who follow methods similar to those of mistaken parents, and who never insist on the intelligent exercise of the child's will-power, so many should leave school without having learned how to deny themselves, or apply themselves so as to succeed in what they undertake. The explanation of bad behaviour, and poor memories, and failure in examinations at school, and a great deal of

the fickleness, and intemperance, and rowdyism, and general worthlessness of later years is the want of patient, persistent, intelligent attention to the development and direction of the will-power in the years of the child's life when its nature is more plastic and more capable of cultivation.

As the purpose of this paper is simply to call attention to this defect in education, which we have ventured to call *radical*, nothing need be added as to remedies. The recognition of the defect is the principal thing. If parents and teachers once realize how much depends on the training of the child's will they will soon discover and invent means of effecting this, which will be more valuable to them than the ready-made methods of others. Some hints may be given as to methods in a future paper.

AN ADDRESS DELIVERED AT THE CONVOCATION OF QUEEN'S UNIVERSITY, KINGSTON.

BY PROFESSOR WATSON.

NO sympathetic critic would say of the Canadian people that they are wanting in practical ideas or in practical energy. That cannot fairly be said of a people who have boldly drawn on the future, and bound ocean to ocean by a gigantic line of railway; who have sought to weld into a whole a number of scattered provinces differing in language, religion, customs and sentiment; and who, in commercial enterprise, combine boldness with caution, and energy with thrift. But perhaps, it might be said that the Canadian people have not yet grasped the full meaning of political unity, and that they are not altogether conscious of the importance to national welfare of devotion to art, literature, science and philosophy. The idea of political unity, the critic may say, still remains

for them too much a "mere idea." Each province, each county, each city, is apt to set up for itself as an independent unit, and to forget the universal, in what seems the particular, good. Even our universities, or at least some of their weaker representatives, have shown a tendency to view one another as rivals, not as fellow-workers in a common cause; and in some cases city and university have confronted each other as antagonists, as when, but the other day, our provincial university was under the necessity of wresting from the wealthy city, for which it has done so much, a sum which might well have been surrendered spontaneously, and even doubled or trebled. This weak grasp of the idea of unity is no doubt due to a variety of causes, but it is, I think, to

be referred partly to our inadequate conception of the importance of the higher culture which a university should seek to foster, and an inadequate conception of the special function which the university, as a member of the social organism, is called upon to discharge. Broadly speaking, the university is the mediator between the past and the future, the life of thought and the life of action, the individual and the race. There is, and can be, no "self made" man. Any one left to struggle single-handed with the forces of nature would soon find nature all too powerful for him. Without association and mutual helpfulness there could be no progress in the arts or in civilization. So without our schools and colleges we should all be condemned to a narrow, monotonous existence, unilluminated by any higher interests, and all scientific discovery, artistic creation, and deeper comprehension of life would be cut off at their source. How stagnant would that society be in which each child had laboriously to discover for itself those elementary truths which it now learns without effort and almost without conscience! It would be, as Plato says, a "society of pigs." I by no means say that even the highest culture may not be obtainable outside of our universities; but it is safe to say that it will then be won only by a useless expenditure of energy. I am aware that many men of genius have owed nothing to the direct teaching of the universities. Genius surmounts all obstacles, and is a law to itself. But I think it wise in most of us not to handicap ourselves at the start, but rather to assume that having no claim to the rank of genius we have no claim to be a law to ourselves. The universities are, or ought to be, the custodians and interpreters of the best thought of all time. The narrow experience of the individual needs to be supplemented by the wider experi-

ence of the race, and only he who has taken pains to enter sympathetically into this wider experience can hope to live a complete life. By a study of the masterpieces of literature a man comes to see the world "with other, larger eyes;" in history he learns how nationalities take shape, flourish and decay; in the record of philosophic systems he is carried back to the insignificant spring of human thought, and forward as they deepen and widen into a noble river that flows on with ever increasing volume and energy; in the study of science he makes acquaintance with those eternal laws which make the Infinite Mind visible to us. The result of this wide culture, if it is pursued in the right spirit, is to make a man look at things from a large and unselfish point of view, and to call up in him a passion for all that makes for a higher national, social and individual life. The work of the university is not simply to supply men with useful information, or to provide them with a valuable intellectual gymnastic, or even to make them skilful in their vocation. A university of the proper type cannot fail to do all these things, but it will do so because it aims at something more and higher. Just as it has been said that to seek for pleasure is the surest way not to find it; so we may say that a university that merely aims at being a sort of living encyclopædia, or seeks to prepare men for a special vocation, or tries to discipline their minds to strength and pliancy, will fail even in this limited object. The aim of the university is to produce noble, intelligent, unselfish men, and if it fails in that it has failed of its high vocation. The true ideal is to lift men to an altitude where they shall be able to contemplate human life as an organic whole, ruled by the idea of order and law, and where they shall be moved as by a divine constraint to consecrate their life to the

common weal. With this comprehensive idea and this far-reaching enthusiasm the true university will inspire all who submit to its influence; and for the realization of such a university almost no labour and no sacrifice can be too great. But I must try to put these general statements into a more concrete shape. Perhaps this cannot be better done than by reminding you of the life of a typical student, who "followed his star" with a faithful persistence that enabled him to enrich the world with the undying products of his genius. I purposely select a man of the first rank, because I desire to emphasize the truth, that even with the highest natural endowment a man can do little for his kind without much hard labour. I refer to the great poet who has expressed in what Tieck calls "mystic unfathomable song" the whole spirit of the middle ages. Why does Dante continue to exercise over the best minds so powerful a fascination? Is it not because, obsolete as are the forms into which his thought is thrown, his conception of life is so true in its essence that it affords the richest spiritual nourishment? We reject the imagery by which, in the "Inferno," the "Purgatorio," and the "Paradiso," the three ideas of retribution, repentance and blessedness, are bodied forth; but after all reservations the truth remains untouched, that evil brings its own punishment, and can be expiated only by a repentance that leads to a new birth. Thus Dante built upon a foundation that stands firm for all time, high above the ebb and flow of our changing creeds, and his great poem rises before us as a stately world-wide edifice. He was no "idle singer of an empty day," no manufacturer of smooth and polished conceits, but a man of ideas, who "saw life steadily and saw it whole." He was a thinker of wide and varied experience, who took his work seriously, and was de-

termined to see things as in reality they are. "This book of mine," he says, "which has made me lean for many years." Boccaccio tells us that, in his boyhood, Dante was a hard student, and had the most intimate acquaintance with all the famous poets. "Taken by the sweetness of knowing the truth of the things concealed in heaven, and finding no other pleasure dearer to him in life, he left all other worldly care and gave himself to this alone." And Leonardo Bruni says, that "by study of philosophy, of theology, astronomy, arithmetic and geometry, by reading of history, by the turning over of many curious books, watching and sweating in his studies, he acquired the science which he was to adorn and explain in his verse." The result of this "watching and sweating in his studies" was that Dante made himself master of all the science of his age. He was not under the strange delusion that originality must rest upon ignorance. True originality, as he saw, presupposes the assimilation of the best thought of all time. He would have endorsed the wise words of Goethe: "If thou wouldst penetrate into the infinite, press on every side into the finite." It would be easy to multiply instances, but this one may suffice. The lesson for us which Dante's life suggests is obvious. Such are the men who make a people great and noble. We all desire to see our own people take their place worthily beside the older nations, and contribute something to the education of the world. But such a consummation, devoutly as we may wish for it, will not come unless we take pains to make it come. A nation does not grow with the easy spontaneity of a plant; its development is its own act, and involves infinite labour and patience. Canada is giving manifest signs that the higher intellectual life is not indifferent to her. Perhaps she still exhibits something

of the immaturity and over-confidence of youth, but she has also its hopefulness, its buoyancy, its enthusiasm. The universities will be false to their trust if they do not turn this abundant energy to fruitful issues. It is their function not to produce men of genius—no university can do that—but to prepare the soil out of which genius may spring. Our universities ought to have a large share in the process of moulding the character of our people. Great scholars, thinkers and men of science do not arise by chance; they are the natural outgrowth of fit conditions.

Now, it is vain for us to disguise from ourselves that our universities have not hitherto done for Canada what Oxford and Cambridge have done for England, Leipsic and Berlin for Germany. With slender means, and as a consequence, with an insufficient body of teachers and inadequate equipment in other ways, they have helped to keep the torch of learning alive, but they have not to any extent produced a race of scholars and thinkers and men of science. When our young men have wished to carry their studies to a higher point they have been forced to go to the universities of the old world, or to those universities of the new world where a higher conception of the vocation of the scholar has prevailed. Surely the period of dependence should now come to an end. There is good hope, I think, that we are entering upon a fuller life. Our universities are gradually becoming easier in their financial condition, and have begun to add to their teaching staff. Many of our young men now aim at something higher than a mere pass, and of late years they have even entered with enthusiasm upon a course of post-graduate study. This is as it should be. The ordinary graduate of a Canadian university leaves college with less knowledge of certain sub-

jects than that with which most English boys enter it. The first two years of a Canadian student are usually spent in doing work that ought to have been done, and we may hope will yet be done, in the High School. One reason for this, no doubt is, that parents are so eager to have their boys enter upon what is called the "practical" work of life, that they send them to college in a lamentably inadequate state of preparation. In many cases, a boy comes to college at the age of sixteen, with an imperfect knowledge of his Latin grammar, with no knowledge of prose except what is enough to enable him to write a little dog Latin, and a superficial acquaintance with a book of Virgil and a book of Cæsar. At the end of his classical course it is still a struggle for him to make out without aid the simplest piece of Latin. How can it be expected that he should have any enthusiasm for Latin literature, or any real comprehension of the part which the Roman people have played in the civilization of the world? Naturally, he associates the name of Rome with a series of irksome tasks, and heartily wishes that the whole of its literature had shared the fate of the lost manuscripts of Virgil. No doubt the student who has taken an honour course in classics is beyond this elementary stage, but even he is just beginning to feel that he is fit for some bit of independent work of his own, when the pressure of necessity calls him imperiously away to do something that he can turn into a means of subsistence. The only wonder is that so many of our students have the courage to carry their studies beyond the point that usage has fixed. That of recent years an increasing number of our young men do so is a most hopeful sign, and it is the plain duty of the university to encourage them by all means in her power. This is the class from which we may yet hope to

obtain a body of Canadian scholars, fit to be named along with the foremost scholars of Germany and England and the United States. We must in our universities make a serious attempt to supply the needs of all classes of students. We must try to lift to a higher level the whole of the work that is done in them. The standard of matriculation should be higher in quality, and a course of post-graduate work should crown our honour courses. To secure the first measure of reform will not be easy. Little can be done by any single university, and certainly very little by a university such as ours that cannot hope to determine the character of the work done in our high schools. I venture however, to make one suggestion, although past experience makes it very doubtful if any heed will be paid to it. Let us have a meeting of representatives, if not of all the Canadian universities, at least of the universities of Ontario, for the purpose of enquiring whether our matriculation examinations might not be made more rational than they now are, and for the discussion of all questions affecting the interests of higher education. The past history of

Queen's has shown, I think, that she will not stand in the way of any necessary reform. In the matter of post-graduate work we are fortunately in a more independent position. The main limit here is in the relatively small number of our teachers, considering the varied work that we undertake. But our condition is steadily improving. The recent additions to our staff make it possible for us to attempt something in the way of post-graduate work. We can at least draw up a scheme of post-graduate work, and give some assistance to those who intend to do the whole or part of it in the university. Such a scheme is now under consideration, and will probably be published in the next calendar. I make bold to suggest to the trustees of our university, that half a dozen fellowships of the annual value of, say, \$250 each should be established, to be given to men who have taken high honours in one of the departments of study, and who are willing to stay on at the university in the prosecution of independent work. No money could well be better spent. Those are most deserving of help who show that they are eager to help themselves.

A LESSON IN COMMERCIAL GEOGRAPHY.

SIR C. W. WILSON, in his presidential address to the geographical section of the British Association, dwelt upon the importance of commercial geography and its bearings upon the economic welfare of England. He gave a sketch of the history of the world's trade, and thus outlined one of the most important branches of commercial geography. His remarks on the value of this study, although referring to England, are well worth being remembered. "My object has been," he said, "to draw attention to the supreme im-

portance to this country of the science of commercial geography. That science is not confined to a knowledge of the localities in which those products of the earth which have a commercial value are to be found, and of the markets in which they can be sold with the greatest profit. Its higher aims are to divine, by a combination of historical retrospect and scientific foresight, the channels through which commerce will flow in the future, and the points at which new centres of trade must arrive in obedience to known laws. A precise

knowledge, of the form, size, and geological structure of the globe; of its physical features; of the topographical distribution of its mineral and vegetable products, and of the varied forms of animal life, including man, that it sustains; of the influence of geographical environment on man and the lower animals; and of the climatic conditions of the various regions of the earth—is absolutely essential to a successful solution of the many problems before us. If England is to maintain her commanding position in the world of commerce, she must approach these problems in the spirit of Henry the Navigator, and by high scientific training fit her sons to play their part like men in the coming struggle for commercial supremacy. The struggle will be keen, and victory will rest with those who have most fully realized the truth of the maxim that "knowledge is power."

His lucid method of treating the questions of commercial geography will be seen from his interesting remarks on the Suez Canal, which are the more interesting, as they suggest a comparison to the effects of a canal through the American Isthmus.

"The opening of the Suez Canal, by diverting trade from the Cape route to the Mediterranean, has produced, and is still producing, changes in the intercourse between the East and the West which affect this country more nearly, perhaps, than any other European state. The changes have been in three directions:

"First. An increasing proportion of the raw material and products of the East is carried direct to Mediterranean ports, by ships passing through the canal, instead of coming, as they once did, to England for distribution. Thus Odessa, Trieste, Venice and Marseilles, are becoming centres of distribution for Southern and Central Europe, as Antwerp and Hamburg

are for the North; and our merchants are thus losing the profits they derived from transmitting and forwarding Eastern goods to Europe. It is true that the carrying trade is still, to a very great extent, in English hands; but should this country be involved in a European war, the carrying trade, unless we can efficiently protect it, will pass to others, and it will not readily return. Continental manufacturers have always been heavily handicapped by the position England has held since the commencement of the century, and the distributing trade would doubtless have passed from us in process of time. The opening of the canal has accelerated the change, to the detriment of English manufacturers, and consequently of the national wealth; and it must tend to make England less and less each year the emporium of the world. We are experiencing the results of a natural law that a redistribution of the centres of trade must follow a re-arrangement of the channels of commerce.

"Second. The diversion of traffic from the Cape route has led to the construction of steamers for special trade to India and the East through the canal. On this line coaling stations are frequent, and the seas, excepting in the Bay of Biscay, are more tranquil than on most long voyages. The result is, that an inferior type of vessel, both as regards coal-stowage, speed, endurance and seaworthiness, has been built. These 'canal wallahs,' as they are sometimes called, are quite unfitted for the voyage round the Cape, and, should the canal be blocked by war or accident, they would be practically useless in carrying on our Eastern trade. Since the canal has deepened, they have improved, for it has been found cheaper to have more coal-stowage, but they are still far from being available for the long voyage round the Cape. Had the Canal not been made, a

large number of fine steamers would gradually have been built for the Cape route, and, though the sailing ships which formerly carried the India and China trade would have held their own longer, we should by this time have had more of the class of steamer that would be invaluable to us in war time; and our trade would not have been liable, as it is now, to paralysis by the closing of the canal.

"Third. Sir William Hunter has pointed out, that, since the opening of the canal, India has entered the market as a competitor with the British workman; and that the development of that part of the empire as a manufacturing and food-exporting country will involve changes in English production which must for a time be attended by suffering and loss. Indian trade has advanced by rapid strides, the exports of merchandise have risen from an average of fifty-seven millions for the five years preceding 1874 to eighty-eight millions in 1884, and there has been an immense expansion in the export of bulky commodities. Wheat, which occupied an insignificant place in the list of exports, is now a great staple of Indian commerce, and the export has risen since 1873 from one and three quarters to twenty-one million hundredweights. It is almost impossible to estimate the ultimate dimensions of the wheat trade, and it is only the forerunner of other trades in which India is destined to compete keenly with the English and European producers.

"The position in which England has been placed by the opening of

the canal is in some respects similar to that of Venice after the discovery of the Cape route; but there is a wide difference in the spirit with which the change in the commercial routes was accepted. Venice made no attempt to use the Cape route, and did all she could to prevent others from taking advantage of it; England, though by a natural instinct she opposed the construction of the canal, was one of the first to take advantage of it when opened, and, so far as the carrying-trade is concerned, she has hitherto successfully competed with other countries."

It is hardly possible to imagine what the effect of the American canal will be. Its influence is likely to be undervalued in Europe, as it will undoubtedly far more benefit the United States than European states. It will undoubtedly cause a revolution in the carrying-trade, and wrest from England's hand the profit obtained by distributing many Eastern goods over Europe and America.

The importance of geography, and more especially of commercial geography, has recently been emphasized by many English writers, and nowhere has this science more ably been advocated than in Sir C. W. Wilson's address, from which we quoted above. If this science is important to England, it is even more important to us, who have to develop the unknown resources of our vast territory. There can be no doubt that from an intelligent pursuit of this science great benefits would accrue to the welfare of our country.—*Ex.*

THE volume of the sun is about 1,330,000 times that of the earth. To give some idea of this difference, let us make a few comparisons of familiar objects. For instance, let the sun be represented by a man weighing 190 pounds. There are 7,000 grains in a

pound avoirdupois, and this multiplied into 190 gives us 1,330,000. Now a grain may be represented by the kernel of wheat, which was in fact the original of the grain weight. So you have on the one hand the sun represented by a large man, and on the other the earth by a grain of wheat.

NORTH ATLANTIC ICEBERGS.

ICEBERGS are a great source of danger to transatlantic navigation from March to August every year. This is the season in which the expected proximity of these dread masses of ice demands from the mariner an increased vigilance. Sometimes, but very seldom, bergs have been fallen in with much earlier. On New Year's day, 1844, a berg was passed by the *Sully* in 45 N. 48 W., and this year, on January 3, one was reported in almost the same position. The northern ice barrier is broken up by the increasing power of the sun's rays as he travels northward along the ecliptic. Fields of ice, sometimes having an area of one hundred square miles, are detached, and a free exit afforded for the imprisoned icebergs. Icebergs and field ice are borne to the southward by the cold current that follows the bend of the land from Labrador to Florida. Field ice is formed on the sea surface during the Arctic winter, but bergs have their origin far inland, and are the growth of years. Greenland glaciers glide gradually down their gentle slopes into the sea, and the upward pressure of the water breaks off their snouts to form the icebergs of the North Atlantic. Some hardy Norwegians are about to cross Greenland, and intend to make a special study of the movements of the coast glaciers and this setting afloat of bergs. Ancient glaciers have written their story on the mountains of Great Britain, and bergs were formed a little way off the west coast of Ireland during the glacial epoch.

There exists a marked difference in form between the bergs of the two hemispheres. Arctic bergs are of irregular shape, with lofty pinnacles, cloud capped towers, and glittering domes; whereas the southern bergs

are flat-topped and solid-looking. The former reach the sea by narrow fiords, but the formation of the latter is more regular. It is well to give these splendid specimens of Nature's handiwork a wide berth, for they frequently turn somersaults, owing to the wasting away of their immersed portions. Immense pieces of ice fell from a berg on to the deck of a ship that had approached too close to it while in this transitory state, carrying away her masts and maiming some of the crew. Again, ships have been sunk by colliding with submerged portions of bergs, extending from their visible volume like reefs of rocks from a bold sea coast. Hayes compared one that he saw to the Colossus of Rhodes. His ship could have sailed under the arch of ice formed in the heart of the berg.

North Atlantic bergs are neither so large nor so numerous as those met with in the Southern Ocean between the Falkland Islands and the Cape of Good Hope. In 1854-55 an enormous ice island was drifting in about 32 S. 24 W. for several months, and was passed by many ships. It was 300 feet high, 60 miles long, and 40 miles wide, and was in shape like a horseshoe. Its two sides inclosed a sheltered bay measuring 40 miles across! A large emigrant ship, the *Guiding Star*, sailed into this icy bay and was lost with all hands. A similar, but smaller, mass of ice was met with in the North Atlantic by the *Agra*. She ran into a bay formed in the centre of an iceberg, in 42 N., which was $1\frac{1}{2}$ miles across, and she experienced great difficulty in beating out again.

A cubic foot of ice weighs about 930 ounces, but the same volume of sea water weighs 1,280 ounces. Hence ice floats on water, and but

one ninth of the volume of a berg is exposed to view. There are several well-authenticated instances of bergs one thousand feet high having been sighted in the Southern Ocean, so that this would give the total height of them as about nine thousand feet! —a fairly good sized mass of solid water. In May, last year, the *Inch-green* passed close alongside of a berg that Captain Miller estimated had an altitude of seven hundred feet above the sea surface, and was seven miles long. Bergs have often been seen grounded on the banks of Newfoundland where the deep sea lead gave a depth of 650 feet. Ross saw several stranded in Baffin's Bay where the depth was 1,400 feet.

Bergs are unusually numerous in some years, and a connection is said to have been traced between the frequency of bergs in the North Atlantic and the low temperature in our islands during the summers of some years. The ship *Swanton* passed three hundred bergs in 1842 in 43 N. 50 W. She narrowly escaped destruction during the night, as she passed between two huge bergs that almost grazed her sides. Captain (afterward Rev. Dr. Scoresby), while whaling in the northern icy sea, counted no less than five hundred bergs under way for the open waters of the Atlantic. Last June the steamship *Concordia* passed seventy-eight large bergs in a short space of time, as they lay aground in the Straits of Belleisle. This year the ice is both late and scarce. In 1883 it was very abundant. No forecast can be made as to the probability of frequency of bergs. A vessel has been so firmly fixed in the ice in the month of March in 44 N. 45 W. that her master was able to take a stroll on the ice. In 1841 several ships, stopped by ice in mid-Atlantic, availed themselves of the opportunity to kill some seals that were basking upon it.

Bergs have been seen in the North Atlantic laden with lumps of rock sand and soil. The banks of Newfoundland would appear to have been formed in this way. Arctic lands suffer denudation by the inland ice as it creeps along toward the sea, and the bergs, separated from their parent glaciers, deposit the fragments at the bottom of the old ocean, there to harden into rocks and help in moulding the surface of the coast. Nothing is lost, nothing is new. In August, 1827, a berg was observed stranded in eighty-five fathoms in 46½ N. 45 W. Much earth and rock were embedded in its fissured sides. Polar bears and other Arctic animals were seen on the bergs of 1883. An abandoned ship was passed high and dry on a huge ice island in 1794, and a ship with her crew was seen similarly situated in 1845; but no help could be afforded.

On April 21, 1851, the brig *Renovation* passed an immense ice island, about ninety miles to the eastward of St. John's, Newfoundland. Two dismantled ships lay snugly upon it, but there was no sign of life. Captain Ommanny, R. N., was deputed to investigate this report, and took great pains to arrive at its truth, as it was inferred that these ships were the *Erebus* and *Terror*, of Sir John Franklin's ill-fated expedition. Some people are still of the same way of thinking. The crew of the German discovery ship *Hansa* were compelled to abandon their vessel, crushed by the ice, and took refuge on an immense floating mass of ice, where they remained for eight months. Their floating ice island was seven miles in circumference, and drifted south, until the poor fellows were able to make their escape. During this time they had lived in a hut constructed from the coal saved from their ship. *H. M. S. Resolute* was abandoned, embedded in the ice, but was picked up after a long drift southward. This

ice-bearing current tends to make the American coast very cold, and, as we write, Sydney, C. B., is not yet open to navigation, although it is 7 degrees further south than Liverpool. The warmer water of the Gulf Stream, on the other hand, enables the whalers to get far to the northward, on this side of the Atlantic, and makes the mean temperature of Ireland in 52 degrees N. as high as that of American coast ports in 38 degrees N., 14 degrees nearer to the equator.

Many losses and casualties were caused by the ice in the North Atlantic last season. Masters should take frequent observations of the temperature of the sea, although it must not be relied upon as a specific indication. Warning may often be obtained by

means of the echo given off from a berg when a steam whistle is sounded.

No precaution must be neglected by those who navigate our floating palaces and ocean tramps, but the safest plan is to adopt a southerly route clear of bergs. The *Etruria* has followed this course in her fastest passages. Our Admiralty charts show the seasonable limits of bergs, and the United States Hydrographical Office issues charts every month giving the exact position of each berg up to the moment of going to press. Notices of bergs passed at sea should be forwarded to Washington immediately on arrival, and every berg reported to us will receive due publicity in our columns.—*Liverpool Journal of Commerce.*

THE RIGHTS OF THE HOME IN THE SCHOOL.

BY CHARLES F. THWING, MINNEAPOLIS.

IT is to be confessed that much of our common school education is in the state suggested by the harlequin in the Italian comedy, who comes upon the stage with a bundle of papers under each arm. "What do you carry under your right arm?" he is asked. "Orders," he answers. "And what do you carry under your left arm?" "Counter orders," is his reply. Education should be aimed at one trade or profession, is one assertion. Education should be broad, and should have no direct reference to one's calling, is a second assertion. "The study of the ancient classics represents time wasted," says one. "The ancient classics should be included in the course of every student whose education closes with the high school," declares a second. "The state has no right to teach religion," affirms one. "The state is not doing its duty to itself or to its citizens, if it fails to

teach the being of God, and the duty of loving God," asserts another. But it is not the present purpose to reconcile these differences. This paper can be made of the most worth by limiting it to the single theme of the demands which the home may justly make upon the school. For the home and the school represent the two formative factors in every human life, and the home is the more important and the more formative. The school exists for the home, and not the home for the school. And therefore it is important to ask and answer the question, What rights can the home claim of school? What is the duty of the school to the home.

In approaching this theme, therefore, I remark that the home has the right of requiring that the school do not impair the health of its students. The length of sessions, the hardness of tasks, the physical conditions of

ventilation, and stairways, should not be suffered to interfere with the development of the body. In the race of life, winning depends in part upon lungs, stomach, liver. He who succeeds may succeed with physical imperfections and disabilities, but he succeeds in spite, not because, of them. A doctor told a boy, whom the world knows as Ralph Waldo Emerson, "You have no stamina." If Waldo lacked physical vigour, he had large intellectual and moral force. But I have sometimes thought that had his constitution been more vigorous his philosophy would have lost some of its dreamy mysticism, and gained in clear and definite principle and statement. The boy or girl needs first to be a robust animal.

I do not think that the schools are in peril of undermining the health of the pupils. The lessons to be learned are not hard or difficult. For one I have been accustomed to spend ten hours a day over my books, and I have grown stronger under such a pressure. The pupils who do break down in the public schools, break down from causes outside the school room. The school ought to set, and the home ought to demand that the school set, duties sufficient to consume the time of each week not needed in sleep, exercise, or ordinary pleasure. When the girl in addition to her school duties takes two music lessons a week, with an hour's practice on the piano each day, when she attends one or two parties a week for four months of the season, and her head does not touch the pillow before one or two o'clock in the morning, she certainly will break down. When such a catastrophe occurs, usually a wail goes up from the home over the hot-bed pressure of the public school. Which, I ask, is to blame for the hollow chests and the sunken eyes, the fingering of the lexicon, or the fingering of the piano keys, nights spent in

making geometric curves on paper, or nights spent in making geometric curves on dancing floors. The school should not be blamed for impairing the health of its members, when it does not impair their health. The home should guard the health of its sons and daughters, and also demand that the school should co-operate with it in preserving the bloom of the cheek and the tone of the constitution.

The home may further demand that the school train the intellectual qualities. The emphatic word is the last, "qualities." I have a diminishing respect for knowledge as knowledge; I have an increasing regard for the qualities of the intellect. The purpose of education is not to cram a thousand pigeon holes of the mind with facts; the purpose is to make the mind an engine to do any work to which it may be summoned. Knowledge is like food, not to be kept, but to be consumed in making mental force and vigour. I care little what the mind knows, I care much what the mind can do. The chief good in knowing is the discipline which knowing gives. It would be impossible for the president of most American colleges to pass the entrance examinations into the freshman class. This fact indicates no incapacity for their position, for knowledge of Latin and Greek and geometry has done its special work for them. They have converted their bare knowledge into intellectual qualities. The flour merchant who wants to go to Europe does not take barrels of flour along with him to pay his railroad and steamer fares. He converts flour into drafts before he takes his departure. It is well for many of us that we have forgotten our Greek and our Calculus, for we have converted our Greek and our Calculus into culture, into intellectual apprehension and discrimination. The president of Yale College lately

said: "If the teacher can stimulate the mind of his pupil and give him a powerful impulse and enthusiasm, he accomplished his best work." Not, therefore, what one learns, but how one learns; not the amount, but the method, is the prime question.

It was not reading Greek at three which made John Stuart Mill a great thinker; it was rather the exactness, thoroughness, patience which his father instilled as he taught him language and metaphysics. The judgment and the power of weighing evidence, intellectual honesty and candour, thoroughness in investigation, accuracy in statement,—these are the qualities to be fostered. No school, however great, should fail to discipline these elements. It is not the present purpose to suggest methods for serving these noble ends, but it may be fitting to say that the method formerly popular, the discipline of the memory, is not the proper method. The memory is an important and useful function, but is far from the most important. A generation ago a school-room had many parrots and martinetts who repeated the book, whose minds were a sponge which soaked up fact and fancy, and emptied fact and fancy at the teacher's inquisitive squeeze. Let us have not simply those who know, but also those who think; not simply those who repeat, but those who reason; not simply those who are cyclopedias, but also those who are human characters.

I pass on to speak about a third, and very important right, which the home may demand of the school. It is the training of the moral qualities of the boys and girls. These moral qualities are not in one sense distinct from the intellectual, for moral qualities have an intellectual side, and the intellectual qualities a moral aspect. In another sense, they are quite distinct. Those great cardinal virtues which are the hinges on which turn

the gate of moral character, should be firmly set. The scholar should be taught reverence for justice; the scholar should be taught temperance in the use of pleasure, abstinence in the indulgence of evil. The scholar should be taught, as the statute in a score of states demands, that indulgence in alcoholic stimulant is an evil, and an evil most destructive. The scholar should be disciplined to prudence and foresight; the scholar should be inspired to moral courage; the responsibility of power he should be made to understand; the duty of sincerity he should feel. Self-reliance which is not pride, and the humility which is not self-abasement, he should possess. The rights of the animal which we depreciate by calling it dumb, he should be taught to respect. The principles which underlie forgiveness and revenge he should understand. Patriotism and philanthropy should not be omitted from the conception of his thought. Obedience to authority he should know; know as a duty and a practice; and penitence for wrong he should feel. Purity of thought and of feeling should be his constant mood. In the younger school moral sweetness, and in the older school moral thoughtfulness, should be secured. These moral qualities the school should discipline. They are more precious than intellectual quality, more precious than all the stores of learning.

Edward Everett Hale said in a sketch of his school days in the *Forum*: "I came home from school at the end of the first month with a report that showed that I was ninth in a class of fifteen. I showed it to my mother because I had to. I thought she would not like it. To my great surprise and relief she said it was a very good report; I said I thought she would be displeased because I was so low in the class, but she said: "That is no matter; probably the other boys

are brighter than you ; God made them so, and you can't help it ; but the report says that you are among the boys who behave well ; that you can see to, and that is all I care about." Yea, these moral qualities are what the mothers and fathers do care about. For what do you prefer for your child, to decline *vir*, or to be a man ? to prove that the square inscribed on the base and perpendicular equals the square inscribed on the hypotenuse, or found his character on the fundamental basis of the eternal verities and of the upright in conduct ? For, as Sir Philip Sydney says, "The ending of all earthly learning is virtuous action."

And here I say that the home should demand that the school respect the individuality of each child. The necessary defect of a system of public education is that the good of all must be made superior to the good of any one. Each child is not fluid sweetness, equal in amount and degree to every other child, to be pressed into certain equal-sized intellectual jars, and to be made to *jell*. The child is rather the seed in which the nature of the intellectual stock, of the moral bud, and the flowers of character are foreordained. Wherein this individuality is evil, let elimination and correction be made ; wherever it is good and good of a specific sort, let no transformation be attempted. Let, therefore, the teacher not look upon his forty scholars as forty vessels to be laden each with a cargo of learning and to be moved across life's sea at an equal rate by the inspiration of one motive ; but rather as forty different varieties of plants which God has set in this garden of Eden, and to which he is to be an Adam to dress and to keep.

Under these moral influences I venture to suggest that the home may fittingly demand that the teacher endeavour to impress the children with

the right value of things material and immaterial. Ex-President White of Cornell spent his boyhood near the head waters of the Susquehanna. In this neighbourhood was situated an academy. He says : " I shall never forget the awe which came over me when, as a child, I saw Principal Woolworth with his best students around him making astronomical observations through a small telescope. Then began my education. So imperfectly we understand in our country that stores, hotels, shops, facilities for travel and traffic, are not the highest things in civilization." With the children of the very rich or of the very poor families the task of impressing the proper value of things material and immaterial is difficult. The very rich and the very poor are constantly tempted to regard the material as of supreme importance ; the one because they have it and know its value, the other because they have it not and therefore think they know its value. There is one respect in which this right placing of value is to be emphasized ; it is the worth put on manual labour. In our age everybody wants to do no harder work with his hand than signing cheques. Manual employment is despised. The genteel callings are overcrowded ; manual employments are not supplied. Rabelais and Rousseau are wise when they demand that their pupils shall perform manual labour. Col. Higginson tells us in that excellent magazine, —the *Forum*,—that he once thought of giving a year to the blacksmith's trade for the purpose of allying himself with all sorts of people, and to know for a few months the sweetness of earning day's wages by the day's labour of his hands. Therefore let our boys and girls be taught that labour is honourable ; that the blouse of the mechanic is a livery ten thousand fold whiter than silk and satin purchased through trickery and chicanery.

Let every boy and girl be taught that the labour of the hands is as honourable as the labour of the brain, if its motive and inspiration be as noble; and that laziness is the first cousin to moral evil.

Morals and religion are twin stars, each revolving about the other, each giving light to and receiving light from the other, and both seen at some angles shining as one point of the divine light. I therefore say further that the home should demand that the school be religious. I do not say that the school should teach religion. I do not say that the home should demand that the doctrines of the Protestant church, or of the Catholic church, be affirmed; but I do say that the atmosphere and the tone of the school should be religious. That there is a God, and that God has relation to man, and man to God,—these are the fundamental facts which, like most foundations, should be buried deep in the substructure of every school-room. It was not the public school,

in our use of the word public, of which Dr. Arnold was the master fourteen years, and through which he impressed himself on English thought and life. But even in our public school the teacher has the right to create such an atmosphere as Dr. Arnold created at Rugby; not instruction in dogma or testament, not the repetition of sacred words or forms of prayer, but a subordination of every interest to the law of God should be emphasized. We need to foster that spirit which the old Webster spelling-book helped to foster in that simple sentence printed across the first page, "You may not put off the law of God." The Catholics are, in a large measure, right when they call our schools godless; but our schools need not be godless, our schools should not be godless. One who does not believe in a God, and is not willing to teach his scholars of Him, is not fit to help in forming the highest character in the most formative age of the character. —*Journal of Education*, New England.

SCRIPTURE LESSONS FOR SCHOOL AND HOME.

No. 19. THE APOSTLES SENT OUT.

To read—*St. Matthew x.*

I. **THEIR CALL.** (1—4.) By Christ Himself after a night of prayer (St. Luke vi. 12), probably by laying on of hands. Chosen out from the disciples who accompanied Christ (Acts i. 21) for special purpose—called Apostles, *i.e.*, missionaries—"those sent out." Names in sets of two—brothers paired together and friends. *Peter* put first in all the lists as leader among equals. *Judas Iscariot* (*i.e.*, of town of Kerioth) always last. *Bartholomew* same as Nathaniel—friend of Philip before his conversion. (St. John i. 45—47.)

James, son of Cleophas—first Bishop of Jerusalem (Acts xv. 13), called "brother," *i.e.*, cousin of Christ. *Lebbaeus*, also called Jude, brother of James. (St. Luke vi. 16.)

II. **THEIR MISSION.** (5—15.) *Not to the Gentiles*—their time for hearing the Gospel not yet come—not till Day of Pentecost. *Not to the Samaritans*—they were aliens—mixed race (2 Kings xvii. 24), mixed religion—part heathen rites, part worship of God. Worshiped on Mount Gerizim. (St. John iv. 20.) Present mission to Jews only in country villages of Galilee. Notice these points. They were—

1. To preach glad news of Christ the King's coming.

2. To work miracles as proof of their mission.

3. To be simple in their habits--no change of dress.

4. To avoid giving offence by moving from house to house.

III. THEIR DANGERS. (16—27.)

Would be as sheep among wolves seeking their lives.

1. Delivered to councils, as Stephen. (Acts vi. 16.)

2. Scourged in synagogues, as St. Paul at Iconium. (Acts xv. 1, 5)

3. Brought before kings, as Paul before Agrippa. (Acts xxvi. 1.)

Must expect to be *hated*, as Stephen (Acts vii. 54); *persecuted* from city to city (see Acts viii. 1, 4); *reviled* like Christ (Acts xxii. 22).

IV. THEIR ENCOURAGEMENTS.

(20, 28—42.) 1. *The Spirit's help.*

First given at Pentecost, enabling them to speak in different languages (Acts ii. 6); afterwards helping them to speak boldly (Acts iv. 8, 13). (2) *The Father's care.*

Their enemies could at worst only kill their bodies. God will protect them. He cares for sparrows, much more for them.

But they must be prepared to do two things—(1) *Confess Christ*—not deny Him, as Peter did among the servants, but speak boldly for Him, as same Peter did before elders. (Acts iv. 13.) Then Christ will acknowledge them at the last day. (2) *Renounce all for Christ*, as Paul did at his conversion (Gal. i. 16); willing to lose life for Christ, as James did (Acts xii. 1), and many others.

V. THEIR REWARDS. (40—42.)

1. *Be received as ambassadors for Christ.* 2. *Receive God's approval.*

No. 20. ST. JOHN THE BAPTIST.

To read—*St. Matthew* xi. 1—19.

I. ST. JOHN'S MESSAGE. (1—6.)

Christ's disciples gone on their mission. Christ followed to proclaim

Himself. They were to preach repentance—turn men's hearts—proclaim the Saviour—then He showed Himself the Lamb of God. (St. John i. 29.) Christ's miracles begin to be talked about—fame reaches St. John in his prison at Machærus—fortress near Dead Sea. Why was he there? Because had denounced the sin of Herod Antipas in taking his brother's wife (xiv. 1). Allowed to have visits in prison from his disciples. Now hears of Christ, and sends two messengers to ask Him if he is indeed the expected Christ. What had St. John already known of Christ?—1. Probably brought up with Him (his cousin) from childhood—his own parents having died. 2. Had baptised Him in the River Jordan. (St. Matt. iii. 16.) 3. Had testified to Him as the Son of God. (St. John i. 34.)

Why then did St. John send to ask Christ? Three reasons been suggested:—

1. To confirm his own doubts—because Christ did not set him free.

2. To confirm the faith of his disciples.

3. To induce Christ to proclaim Himself publicly as Messiah.

II. ST. JOHN'S CHARACTER. (7—15.) (1) *What it was not.* Weak, like a reed. He had not been afraid of publicans, soldiers, etc. (St. Luke iii. 12—14.) He had rebuked Herod. Was bold and unflinching in his conduct. *Effeminate.* Not seeking king's palaces—clad in soft clothes—but leading austere life in desert (iii. 4), setting example of frugality and self-denial. (2) *What it was.* Great in position, as prophet and forerunner of Christ; and great in fact, as holy, patient man.

How was his greatness shown?—

1. An angel announced his birth.

2. Full of Holy Ghost from birth.

3. Was special messenger of Christ.

4. Baptised Christ.

Yet least in Christ's Kingdom is greater—because sees fulfilment of Christ's life, death, and resurrection. Therefore must strive earnestly to enter that kingdom.

LESSONS. 1. *Patience* under trial —from St. John. 2. *Thankfulness* for our greater privileges. 3. *Sympathy* with all seeking to serve God.

PUBLIC OPINION.

THE growing discontent with the present system of school inspection, and with the mode in which Inspectors are chosen or promoted, is not likely (says the *North British Daily Mail*) to be allayed unless a resolute effort at reform be put forth on other lines than those hitherto pursued.

A VERY excellent movement has lately been set on foot by the Lundy's Lane Historical Society, in offering prizes for the best essays on Canadian history, to be written by pupils of the High Schools in the county of Welland, and dealing with the War of 1812 as the first epoch they may take up.—*The Week*.

MR. SMITH has not seen his way (says the *St. James's Gazette*) to make any open recognition of Matthew Arnold's public services. But his even greater services to literature must not be allowed to pass unrewarded by a nation which learned in no small degree from his teaching to love what is beautiful in literature and to despise what is contemptible. The value of his writings is not to be measured by the circulation of his books. It would be unbecoming to a great nation that the funds should not be forthcoming which are required to make a generous memorial of his noble and inspiring work.

THE school board is in an uncomfortable position at the present time. At its last meeting two petitions were received, asking for a hear-

ing upon the removal of *Swinton's Outlines of the World's History*. One petition was referred to the textbook committee with full powers, the other to the High School committee with full powers. The textbook committee gave a private hearing, at which Dr. Blake, Judge Fallon, and Dr. Duryea were present, Messrs. G. R. Swasey and E. C. Carrigan being absent. Several members of the general committee were present. The petitioners presented the following formal statement of the case:

To the Honourable Members of the School Committee of Boston:

On behalf of the Evangelical Alliance of the city of Boston, we, its committee, would respectfully submit the following petition, with the reasons for the same. We respectfully petition the school committee to restore to its place in the English High School *Swinton's Outlines of the World's History*, which, it is publicly reported, this committee has stricken from the list of its textbooks. Reasons for the petition: 1. The book ejected from the curriculum of study has in its favour ten years of public endorsement and use. It has a long and honourable tenure in our public schools. 2. The paragraph and first note, on account of which the book has been ejected, contain a true statement of history. This assertion is supported by standard authorities of all schools. We wish neither the suppression of history nor the perversion of history. 3. The book

ejected is upon the expurgatory list of books of a certain religious sect, a member of which has begun the movement resulting in its ejection. For this committee of free citizens to put its expurgatorial stamp upon the book for the reasons alleged is to ally itself with that religious sect. Such an act would be a misrepresentation of the Boston public and American ideas. It would be the beginning of a religious war upon the hearthstone of our civil institutions. It would plant sectarian strife in the cradle of American children.

As American citizens we enter a solemn protest against all who originate a continuance of such a course. For the past ten years there has been peace in our school community. The disturbers of the peace are those who break the line which these years have followed.

As heads of American households, as the fathers of children who fill our public schools, as American electors, who have in large part created this school committee, and who for the time have intrusted to the members thereof their rights for the safe keeping, we ask you to act, as we would act, in the interest of the whole community, and to continue the successful and peaceful past by granting this petition. (Signed) PHILIP S. MOXOM, JAMES M. GRAY, DAVID GREGG, JAMES B. DUNN, A. J. GORDON, NELSON B. JONES, JR., JOHN F. CLYMER, EZRA FARNSWORTH.—*Boston Journal of Education*.

THE EDUCATIONAL MOLOCH.—KING HEROD might rejoice greatly if he lived in these days; he would see a sort of "massacre of the innocents" going on daily; under State direction and with the apathetic approval of the British public. We do not

mean, of course, that our blessed educational system absolutely murders those who come into its clutch. But in the case of infants, it has an unmistakable tendency to shorten life. Take the picture of one of these institutions communicated to a *Lancashire paper* by an expert. It contains about 200 infants between three and six years of age. All of them "study" (save the mark!) in one room, class rivalling class, and pupil-teacher pupil-teacher, in the vain endeavour to hear and make themselves heard. The necessarily vitiated atmosphere, the confused jumble of simultaneous *viva voce* instruction in different branches, and the fearful noise, must be sufficiently trying to the baby constitutions. But there is a worse ordeal even than this purgatory; every now and then an inspector makes his awful appearance, and the infants have to go through their educational facings in fear and trembling. Talk of bogies, indeed! What more frightful spectre was ever conjured up by an idiotic nurse than this stern functionary, bristling all over with sharp questions like a Texan citizen with bowie-knives and revolvers? The teachers themselves are smitten with awe by his dread presence, knowing well that it largely rests with him to mar their careers. But it is on the little ones that he produces the most terrifying effect; they shrivel up as he glares at them, and what muddled learning they have picked up vanishes clean away. No doubt it is a great advantage to poor folk to have their infants looked after while they are at work. But this might be done without putting the unfortunate brats to educational torture. Play is the thing for children under six; the more they have of it, the better for their mental and physical health.—*Globe* (London).

NOTES FOR TEACHERS.

MOUNT ST ELIAS.—This mountain, on the border of Alaska, which has been supposed to reach the height of 15,000 feet has, been estimated by recent travellers, who ascended by the western side, to be at least 20,000 feet high. They climbed up to the height of 11,500 feet but owing to the slippery state of the steep ascent, and the depth of snow, could proceed no further.

BOOKS give to all who will faithfully use them, the society and the presence of the best and greatest of our race. No matter how poor I am; no matter though the prosperous of my own time will not enter my obscure dwelling, if learned men and poets will enter and take up their abode under my roof,—if Milton will cross my threshold and sing to me of Paradise; and Shakespeare open to me the world of imagination and the workings of the human heart; and Franklin enrich me with his practical wisdom,—I shall not pine for want of intellectual companionship, and I may become a cultivated man, though excluded from what is called the best society in the place where I live. Nothing can supply the place of books.—*Channing*.

THE SINKING OF THE CORDILLERA OF THE ANDES.—The Cordillera of the Andes has for some time been exhibiting a curious phenomenon. It results from observations made upon the altitudes of the most important points, that their height is gradually diminishing. Quito, which in 1745 was 9,596 feet above the level of the sea, was only 9,570 feet in 1803, 9,567 in 1834, and scarcely 9,520 in 1867. The altitude of Quito has, therefore, diminished by 76 feet in the space of 122 years. Another

peak, the Pichincha, has diminished by 218 feet during the same period, and its crater has descended 425 feet in the last 25 years. That of the Antisana has sunk 165 feet in 64 years.—*La Gazette Geographique*.

It is an interesting fact, especially in view of certain comparisons nearer home that it suggests, that in Australia the subject of school hygiene has received special attention for some years in the state or public schools. The teachers are particularly instructed to be careful about the spread of infectious diseases, and the public health law is sufficiently stringent to secure the exclusion of scholars and teachers from houses in which communicable diseases exist. In the State schools of Victoria, now for a number of years, a system of object lessons has been given, with a view to imparting elementary instruction bearing upon the health of the people; these lessons generally include such subjects as food, clothing, ventilation, cleanliness and the prevention of infectious diseases. There have also been given at stated times lessons for the treatment of snakebite, for the resuscitation of the drowned, and for the first aid to the injured. The Department of Education requires also some elementary knowledge on the part of teachers upon the subjects of sanitation and physiology.—*Ex*.

THE first railway has been laid in Morocco. The line is only a toy for the amusement of the Sultan, but it may have fruitful results nevertheless. The railway, with all its appurtenances, is a gift from the King of the Belgians to Muley Hassan, who appears to be delighted with it. It has been laid in the park surrounding the imperial

palace at Mequinez, and was lately opened with some pomp. The railway has been purposely laid with several sharp curves and steep gradients, by way of showing the Moors the wonderful things that steam can do. The saloon carriage, of which, in addition to engine, tender, and guard's van, the rolling-stock consists, is elaborately decorated and upholstered in a style which, although somewhat *bizarre* to the European eye, was thought to be suitable to the taste of a Moorish Sultan. Muley Hassan did not dare to trust himself in the strange conveyance on the opening day, but he made some of his male relations and Ministers take several trips and recount to him their experiences, which seemed to be thoroughly satisfactory.—*School Newspaper.*

WEBSTER'S EARLY HOME.—“It is only shallow-minded pretenders who either make distinguished origin matter of personal merit or obscure origin matter of personal reproach. Taunt and scoffing at the humble condition of early life affect nobody in this country but those who are foolish enough to indulge in them; and they are generally sufficiently punished by public rebuke. A man who is not ashamed of himself, need not be ashamed of his early condition. It did not happen to me to be born in a log-cabin; but my elder brothers and sisters were born in a log-cabin, raised amid the snow-drifts of New Hampshire, at a period so early that when the smoke rose from its rude chimney and curled over the frozen hills there was no similar evidence of a white man's habitation between it and the settlements on the rivers of Canada. Its remains still exist. I make to it an annual visit. I carry my children to it to teach them the hardships endured by the generations which have gone before them. I love to dwell on the tender recollections,

the kindred ties, the early affections and the touching narratives and incidents which mingle with all I know of this primitive family abode. I weep to think that none of those who inhabited it are now among the living; and if ever I am ashamed of it, or if I ever fail in affectionate veneration for him who reared it, and defended it against savage violence and destruction, cherished all the domestic virtues beneath its roof, and through the fire and blood of a seven years' revolutionary war, shrank from no danger, no toil, no sacrifice, to save his country, and to raise his children to a condition better than his own, may my name and the name of my posterity be blotted forever from the memory of mankind.”—*Ex.*

THE suggestions of improvement which President Eliot, of Harvard, in the *Atlantic* for August, makes and elaborates with argument and illustration are comprised under five heads:

1. Better teachers are needed. To this end a better tenure of office is necessary, in order to secure for the function of teaching greater consideration and dignity. A large proportion of male teachers is also desirable in order that general longer continuance in the work may be effected, and that the habit of teaching from day to day without that seriousness of purpose that belongs to the hope of achieving a recognised professional success may be done away with in the largest possible measure.

2. Courses of study must be improved. “A good course of study will not execute itself,—it must be vivified by the good teacher; but an injudicious course is an almost insuperable obstacle to the improvement of a city's schools. As a rule, the American programmes do not seem substantial enough, from the first year in the primary school onward. There is not enough meat in the diet. They do

not bring the child forward fast enough to maintain his interest and induce him to put forth his strength."

3. Much time can be saved in primary and secondary schools by diminishing the number of reviews, and by never aiming at that kind of accuracy of attainment which reviews followed by examinations are intended to force. It is one of the worst defects of examinations that they set an artificial value upon accuracy of attainment. Good examination results do not always prove that the training of the children examined has been of the best kind."

4. Striking statistics are given showing that children are often kept back and that thus the average age of classes is often made much higher than the programme for the grade in question calls for. "The great body of children ought to pass regularly from one grade to another, without delay, at the ages set down on the programme; and any method of examination which interferes with this regular progress does more harm than good."

5. It is suggested that the shortening of the school year has gone far enough, and that some steps should be taken in the other direction.

EDITORIAL NOTES.

THE college Addresses of Sir Daniel Wilson, University College, and Dr. Watson, Professor of Moral Philosophy, Queen's University, will repay careful reading.

THE City of Toronto, for the privilege of having the Queen's Park as a public park, has endowed two chairs in the University of Toronto. The President of University College, Sir Daniel Wilson, paid the present Mayor of Toronto a well-deserved compliment on the satisfactory settlement of this difficulty. The Government of Ontario has its buildings in this same public park. What is it going to do? If it is simple justice for the city to endow chairs in the University for privileges enjoyed, surely for that same plain reason the Province should do itself the honour of "doing likewise."

HIGHER EDUCATION OF WOMEN.

—The movement for the establishment of a College Course for Women in affiliation with Trinity University, Toronto, alluded to by Chancellor Allan in his last Convocation speech,

is, we are assured, rapidly approaching shape for academic work. A large amount of support has been secured, and more is promised with a readiness which augurs well for the success of this latest undertaking for the education of women in a college of their own. The College has obtained a temporary building until a permanent one is provided. An accomplished Lady Principal has been appointed, and the professors of Trinity will lecture to the lady undergraduates. Already several undergraduates have entered their names, and a good attendance is expected.

REPORT OF THE ROYAL COMMISSION APPOINTED TO INQUIRE INTO ELEMENTARY EDUCATION IN ENGLAND AND WALES.

NO such important report on education as this has appeared since the one that gave origin to the Act that was passed in 1870 by the efforts of the late Mr. Forster. In appointing the Commission the government aimed among other things to make it of a representative character. Religion

was represented in the persons of Cardinal Manning, the Bishop of London, Canon Gregory, and Dr. Rigg; science by such names as Sir John Lubbock; elementary education by Mr. Heller, Secretary of the National Union of Elementary Teachers, Sir Francis Sandford, a former Secretary of the Education Department, and Mr. Buxton, a former chairman of the London School Board. Besides these the Commission included several prominent public men who are more or less identified with education, such as Sir R. A. Cross, Lord Norton, Hon. L. Stanley, and Sir B. Samuelson. It was appointed on the 15th of January, 1886, and spent one hundred and forty-six days in hearing and discussing evidence with a view to making out the Report now issued. The conclusions of such a body of men cannot be otherwise than important, and as it will interest our readers to know those which most concern ourselves we supply a summary of them.

In regard to school accommodation, "after making due allowance for absence on account of sickness, weather, distance from school, and other reasonable excuses for irregular attendance, school seats should be provided for one-sixth of the population." Ten square feet, and one hundred cubic feet should be the minimum accommodation for each child in average attendance, and school buildings should be provided with a proper amount of light and air—suitable premises—and a reasonable extent of playground. While inspectors should be men of wide and liberal training, the tone and character of the teaching profession in elementary schools would be raised by selecting them from the general body of teachers. In selecting inspectors, special weight should be given to the possession of an adequate knowledge of natural science. In large towns the experi-

ment might be tried of appointing sub-inspectresses to assist in the examination of infant schools and of the lower standards. Inspectors' assistants should be chosen from the pick of the elementary teachers. The Head Master of a school should be free to superintend the whole work of the school, but he should not be dissociated from actual instruction. In fixing the qualifications of teachers it must be borne in mind that there are some with a natural aptitude and love for teaching who have not received a professional training, and who could not be excluded from the profession without a loss to the schools. The salaries of teachers ought to be fixed. A superannuation scheme should be established by means of deferred annuities, supplemented by the Education Department out of moneys provided by parliament. There is no other equally trustworthy source from which an adequate supply of teachers can be got than that of pupil teachers, and the system of apprenticeship with modifications tending to improvement in the education of pupil teachers ought to be upheld. Facilities should be provided for the withdrawal of such pupil teachers as have no liking, or who are proved to be unsuited for the work of teaching. A third year at a training college would be an advantage to some students. While it is best to have residential training colleges, the large need for more generally available opportunities of training leads the Commission to suggest the experiment of training non-residential students in connection with local university colleges. The system of compulsory attendance at school, up to the age of thirteen years at least, is affirmed. Approval is expressed of truant and day industrial schools, as they have been found efficacious in enforcing compulsion. In regard to the studies pursued, there is room for much im-

provement in reading; too much importance is attached to spelling, which is best learnt by the practice of reading. The universal teaching of drawing would tend to make the writing of pupils better in form, and more legible. Arithmetic should be carefully graduated so as to be well within the compass of the scholars of both sexes, and the exercises should be thoroughly practical, and of a kind likely to be met with in every-day life. The principles as well as the working of the rules should be taught. Children should learn by heart suitable passages of English poetry. Under the head of grammar both parsing and analysis should be retained.

Geography, if properly taught, is a branch of elementary science, and might well be taught along with object lessons, while in the highest class (Standard VII.) the time allotted to the subject might advantageously be devoted to specialising some particular branch of the subject. In the junior classes it may be expedient to restrict the teaching of English history to a general outline, giving in fuller detail the most interesting epochs, or the lives of its most eminent characters, but the advanced classes should devote their time to acquiring a knowledge of the constitution, and of some of the national institutions. Drawing is of the utmost importance, and at no time can it be so easily taught as during the period of schooling. It is impossible to teach singing by note in every school. Needlework, which the Commission regarded as one of the most important branches of a girl's education, should be thoroughly practical and efficient. The introduction of elaborate apparatus for gymnastic exercises into playgrounds is not to be recommended. In towns the best results both physical and moral can be secured by the system of drill recommended by the War Office. Pro-

vision should be made to confer special certificates on teachers duly qualified to conduct physical training, and possessing the requisite elementary knowledge of anatomy. The Commission declares that the following subjects of elementary instruction are to be regarded as essential: Reading, Writing, Arithmetic, Needlework for girls, Linear Drawing for boys, Singing, English, so as to give the children an adequate knowledge of their mother tongue, English history taught by means of reading books, Geography, especially of the British Empire, Lessons on Common Objects in the lower standards leading up to a knowledge of elementary science in the higher standards. Though boys while at school should not be taught a trade, they might receive manual instruction in the use of tools after ten years of age, and should receive some instruction in elementary science which the Commission believes is only second to the three elementary subjects usually taught.

The necessity of having some form of evening school for the purpose of fixing and making permanent the day school instruction, is spoken of as being self-evident. Hence evening schools should be regarded chiefly as schools for maintaining and continuing the education already received in the day school. The Commission recommends that an adequate supply of secondary schools, corresponding to our High Schools and Collegiate Institutes, should be organized throughout the country, and that increased funds should be provided out of which to create sufficient exhibitions for such deserving elementary scholars as would profit by a training in those schools.

Inspection of schools should be of two kinds: (1) inspection in scholarship, and (2) inspection to ascertain the moral tone and discipline of the school. The Commission is unani-

mously of the opinion that the system of "payment by results," at present prevailing, ought to be modified and relaxed in the interests equally of the scholars, of the teachers, and of education itself. It is recommended that the fixed grant per pupil in average attendance be ten shillings. The government should retain the power

to curtail the grant for faults of instruction, discipline, morality in the scholars, or honesty in the conduct and management of the school. The inspector should report separately on the moral training, cleanliness of school and scholars, general intelligence, classification of pupils, and instruction of pupil teachers.

SCHOOL WORK.

MODERN LANGUAGES.

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

EXERCISES IN ENGLISH.

1. Substitute words for the italicized phrases:

(a) It had stood *in that place* for a hundred years.

(b) *In what place* and *at what time* shall I meet you?

(c) The house is *in the vicinity* of the church.

(d) As we *went out of* the room they came into it.

(e) A short time afterwards he *made his appearance*.

(f) They listened *with attention* to the address given by the chairman.

2. Expand into complex or compound sentences:

(a) He hates them for that very reason.

(b) Leaving him in the hall I entered the room alone.

(c) Only ratepayers will be allowed to vote.

(d) He was looking unusually well this morning.

(e) You have no reason to feel discouraged.

(f) With the chairman's permission I will withdraw the motion.

3. Change the voice of the finite verbs:

(a) The impressions which I left in their minds will not soon be forgotten.

(b) I was told that the authorities had made no further attempt to find out who wrote it.

(c) Its course has been traced more than two thousand miles, but no one has yet reached its source.

4. Combine the following groups into a simple, a compound, and a complex sentence, respectively:

(a) Two Englishmen traded there for some years. Their names were Elliott and Thorn. They were under the protection of Henry VIII. They obtained valuable furs. They got them from the natives.

(b) The Governor was aided by a French Huguenot. The name of the latter was Kirkt. The Governor fitted out a few armed vessels. With them he captured some French transports. These were on their way to Canada. He did nothing toward permanent settlement.

(c) He had received a caution from his adversary. He did not neglect it. A light wind had arisen. He made allowance for it. He shot very successfully. His arrow alighted in the very centre of the target.

5. Break up into a series of eight simple sentences:

Ere the Christian could avail himself of this mishap, his nimble foeman sprang from the ground, and, calling on his steed, which instantly returned to his side, he leaped into his seat without touching the stirrup, and regained all the advantage of which the Knight of the Leopard hoped to deprive him.

6. Which is correct, and why?

(a) Come in (into) the house and I will try (and) to explain it to you.

(b) It tastes strong (strongly) of alum.

(c) Was (were) there more than one mistake in it?

(d) When will (shall) you be able to finish it?

(e) He has a foolish custom (habit) of doing that.

7. Fill the blanks:

1. With the proper preposition—

(a) I have no sympathy _____ them.

(b) She was overcome _____ emotion _____ hearing the news.

(c) There is not the slightest need _____ such a thing.

(d) Your answer is quite different _____ mine.

2. With the proper part of *lie* or *lay*, *set* or *sit*—

(a) He told me to go and _____ down for a little.

(b) I might have _____ there till now.

(c) He went and _____ down.

(d) I found them _____ on the grass.

8. Write simple sentences containing:

(a) All the parts of speech.

(b) The same word used with different grammatical values.

(c) A noun phrase, an adjective phrase, and an adverb phrase.

9. Accentuate correctly: adult, allies, inquiry, mischievous, robust, precedence, sonorous, recess.

10. Indicate common mispronunciations of duty, regular, grievous, shriek, studying, violence.

11. Change from direct narrative to indirect:

"By the cross of my sword," he said, laying his hand on the weapon as he spoke, "I will be a true companion to thee, Saracen, while our fortune wills that we remain in company."

12. Change from indirect to direct:

He implored them by all they held most dear, by all the ties that bound every one of them to their common country, not to reject the bid which they were then considering.

13. Correct any errors, giving reasons:

(a) It's a better book than any I know of.

(b) He was very displeased when he heard of it.

(c) She said she wished she was in his place.

(d) She dresses quite as good as she can afford.

(e) He did not act like we expected he would have done.

CLASS-ROOM.

EDUCATION DEPARTMENT, ONTARIO.

MIDSUMMER EXAMINATIONS, 1888.

Third Class Teachers.

ARITHMETIC.

Examiners—J. F. White, W. H. Ballard, M.A.

NOTE.—Only nine questions are to be attempted; of these, numbers 1, 3, 4, 6, 9, 12, must form six.

1. Simplify (a) $\frac{2}{3}$ of $\frac{3}{4}$ of $\frac{1}{2}$ of $\frac{1}{3}$ of $2\frac{1}{2}$ of $3\frac{3}{4}$ of $\frac{7}{8}$
 $4\frac{1}{2} - (3\frac{1}{2} + 4\frac{1}{2}) + 3\frac{1}{2} + \frac{1}{2}$

(b) What fraction of 365 $\frac{1}{2}$ days is 349 days, 8 hrs., 52 min., $\frac{1}{2}$ secs.?

1. (a) *Ans.* $\frac{1}{2}\frac{1}{2}$.

(b) $\frac{69426697}{72582480}$.

2. A can do a work in one-half the time that B requires, B can do it in two-thirds of the time that C takes. All working together do it in 18 days. How long would it take each one separately?

2. A can do twice as much as B.

B can do $\frac{2}{3}$ times as much as C.

Reduce all to terms of C.

\therefore 5 $\frac{1}{2}$ men such as C can do the work in 18 days, etc. *Ans.* G=99 days; B, 66 days; A, 35 days.

3. A man got a 90 days' note for \$1360 for a lot which cost him \$1200 cash just a year before, Money 6 per cent.; find his net gain at time of sale. (Bank discount; 360 days to a year; no days of grace.)

3. At the time of sale the lot had cost \$1200 + int. on \$1200 for 1 year at 6 per cent., or \$1272. The owner obtained for it

\$1360 less the B. D. on \$1360 for $\frac{1}{4}$ year at 6 per cent., or \$1339.60 cash, etc. *Ans.* \$67.60.

4. Bought 78 ac. 3 r. 15 per. 7 yds. 1 ft. 9 in. of land at \$80 per acre; sold $\frac{1}{3}$ of it at \$120 per acre, and the rest at \$.005 per sq. ft. Find gain.

4. *Ans.* \$7780.45, nearly.

5. A number of men and women earned \$93 a day, each man getting \$2.25 and each woman \$1.50. Had there been 6 more men and 7 more women the whole number of women would have earned the same as the whole number of men. Find the actual number of each.

5. On the supposition mentioned the amount earned would have been increased to \$117. By the same, women earned $\frac{1}{4}$ of \$117, etc. *Ans.* 39 women, 26 men.

6. A commission merchant receives 125 bbls. of flour from A, 150 bbls. from B, 225 bbls. from C; he finds on inspection that A's is 10 per cent. better than B's, and C's is $5\frac{1}{4}$ per cent. better than A's. He sells the whole lot at \$7.00 per barrel, charging 4 per cent. commission. What sum must he remit to each?

6. Reduce them all to flour of same value as A's. By this $498\frac{1}{4}$ bbls. of flour of A's grade cost \$3500, less com., or \$3360.

\therefore A should get $\frac{125}{498\frac{1}{4}}$ of \$3360, etc. *Ans.* \$842.29.

7. A compound of tin and lead weighs $10\frac{4}{3}$ times as much as an equal bulk of water, while tin weighs $7\frac{4}{4}$ times, and lead $11\frac{3}{5}$ times, as much as equal bulks of water. Find the number of pounds of each metal in 765 lbs. of the compound.

7. By the principle of averages, if the mixture were all tin it would weigh less by $10\frac{4}{3} - 7\frac{4}{4}$, or $2\frac{9}{9}$ times an equal bulk of water. If it were all lead it would weigh more by $11\frac{3}{5} - 10\frac{4}{3}$, or $\frac{9}{2}$ times an equal bulk of water. \therefore to balance excess by deficiency we must take 92 parts of tin as often as 299 parts of lead, etc. *Ans.* 180 tin, 585 lead.

8. A bankrupt had goods worth \$7950,

which, if sold at their full value, would give his creditors $81\frac{1}{2}$ per cent. of their claims. But $\frac{1}{3}$ of them were sold at $17\frac{1}{4}$ per cent. below their value, and the remainder at 23 $\frac{1}{2}$ per cent below their value. How many cents on the dollar did his creditors realize?

8. $\frac{1}{3}$ of goods were sold at $\frac{1}{3}$ of their value.

$\frac{1}{3}$ " " $\frac{1}{3}$ " "

Amount received = $\frac{1}{3}$ of $\frac{1}{3}$ of value + $\frac{1}{3}$ of $\frac{1}{3}$ of value, or $\frac{1}{3}$ of value. \therefore Creditors receive $\frac{1}{3}$ of $81\frac{1}{2}$ cts., or 65 cts. on \$1. *Ans.* 65c.

9. A begins business with a capital of \$3,200; after 3 months B is admitted as a partner with \$2400; after 3 months more C is admitted with \$1600. What fraction of the year's gain should each have?

9. A has \$3200 in the business for 12 mos.

B has \$2400 " 9 mos.

C has \$1600 " 6 mos., etc.

Ans. A gets $\frac{1}{3}$ of profits.

10. If it cost \$11.20 for paper for a room 25 ft. 3 in. long, 19 ft. 9 in. wide, and 12 ft. high, when the paper is $\frac{1}{4}$ yds. wide; find cost of the paper per linear yard. (No allowance for doors and windows.)

10. Peri. of room = 90 ft.; area of walls = peri. \times H. = 1080 sq. ft., etc. *Ans.* 7 cts.

11. What is the cost of polishing a cylindrical marble pillar, 2 ft. 6 in. in diameter and 12 ft. long, at \$1.25 a square foot?

11. Area of curved surface of pillar = cir. of base \times H. of pillar; area of ends of pillar = area of 2 equal circles, each of whose diameters is 2 ft. 6 in., etc. *Ans.* \$130.13 nearly.

12. A square field containing 16 ac. 401 sq. yds., has a walk around it outside 12 ft. in width. Find the area of the walk in yards.

12. Area of square = 77841 sq. yds.; \therefore side = 279 yds., etc. *Ans.* 4528 sq. yds.

ARITHMETIC.

SOLUTIONS REQUESTED BY A SUBSCRIBER.

1. It is agreed that the rent of a farm shall consist of a fixed sum, together with a certain number of bushels of wheat; when wheat is 56s. a quarter, the rent is £250; when wheat is 60s. a quarter, the rent is £260; what will be the rent when wheat is 80s. a quarter?

2. The population of a country would increase annually five per cent., were it not that emigration annually carries off $\frac{1}{2}$ per cent. of the people; what will be the increase per cent. in the population after five years?

3. A man bought goods for \$750, and sold a certain portion of them at a loss of four per cent. Having increased his selling price twelve and a half per cent. he gained four per cent. on the whole transaction. Find the portion of goods sold at a loss.

SOLUTIONS.

1. A difference of 4s. in the price per quarter raises the rent £10; a difference of 20s. in the price per quarter raises the rent £50; £260 + 50 = £310.—Answer.

2. An annual increase of $4\frac{1}{2}$ per cent. or .045 of the population, would give an increase of $(1.045)^5 - 1$ of the population at the end of five years.

$$(1.045)^5 = 1.246 +$$

$$1.246 - 1 = .246, \text{ or } 24.6 \text{ per cent.}$$

3. $\text{r}\bar{3}\bar{8}\bar{8}\bar{\sigma}$ total cost of goods = $\text{r}\bar{0}\bar{0}\bar{0}\bar{\sigma}$ cost of goods on which gain was made - $\text{r}\bar{1}\bar{8}\bar{8}\bar{\sigma}$ cost of goods on which loss occurred; $\text{r}\bar{1}\bar{8}\bar{8}\bar{\sigma}$ cost of goods on which loss occurred, + $\text{r}\bar{4}\bar{6}\bar{6}\bar{\sigma}$ (.....) = $\text{r}\bar{0}\bar{0}\bar{0}\bar{\sigma}$ cost of goods on which gain was made, - $\text{r}\bar{1}\bar{8}\bar{8}\bar{\sigma}$ (.....), $\text{r}\bar{1}\bar{8}\bar{8}\bar{\sigma}$ (.....) = $\text{r}\bar{1}\bar{8}\bar{8}\bar{\sigma}$ (.....);

$\therefore \frac{85}{80 + 85} \times \$750.00 = \$386.36 +$ is the value of the portion of goods sold at a loss.

THIRD CLASS LITERATURE.

ANGLING, P. 62.

The figures 1, 2, 3—14, refer to the speeches taken in order.

1. "O my good master," "I pray," artificial "to" and "also" may be omitted without destroying the sense; supplying them produces a quaint effect and indicates that there is no haste, hence their appropriateness in describing a pursuit that demands leisure.

2. "My honest scholar," and "O my good master" in 1, nominatives of address. "G. you," subject of imperative supplied, we omit it.

"Of the clock," old form for "o'clock,"

"yon," seldom used now, its place taken by "that" and "those."

"Bottle of drink," spirituous liquor, since the water in all trout streams is fit for drinking. "Brave," magnificent, grand. "Honest," hearty. "Hungry breakfast," in sense, hungry refers to "we."

"For the making and using of," owes its quaintness to the italicized words.

"My advice is that you fish as you see me do." I advise you to fish like me; a saving of four words. Why is the author's sentence to be preferred? See 1.

3. "I thank you master," thank you or thanks. "Thanks" would be out of place in this narrative. Why?

"I will observe and practice," "attend and do," very happily used.

4. "Look you scholar," subject of imperative supplied, also nom. of address; this peculiarity is a marked feature of the extract.

"I pray put," not, I pray you put; "touch not," not, touch you not, because he has warmed up to the sport and is mildly excited.

"I thank you," now that the fish is landed he has time to supply the you.

"Now for another," now let us try for another.

"Come, scholar, come," come you scholar, come you.

"Help me to land this," help me to land this one.

Elliptical form indicates haste or excitement.

"So now we shall," the fish is landed; he has time for the unnecessary so.

5. "I am glad of that, but I have no fortune." He is generous enough to rejoice in his friend's fortune, though his own is not good.

"Sure," adjectival for adverbial form, common with writers of his time.

6. "Nay," a weak apologetic form of negative now seldom used.

"I have a bite at another," I have another bite.

"He has broke all," old form for broken.

8. "For pray, take notice," by suspense

add to the humorous effect, "no man . . . had," vary construction, then compare result with text.

9. "Angle" (A. S. angel), a fishhook.

10. "Two brace of trout," four trout; no hurry.

"A scholar, a preacher, I should say," what follows shows that the correction was necessary.

"Lecturer," a preacher; this word, as compared with preacher or minister, insinuates dogmatism, formality and pedantry.

"To the lender of it," to the lender.

"For you are to know," you should know.

"Fitted to my own mouth," and "I have a bite at another," in 6, quaint, owing to the literal meaning.

"Ill pronunciation," "ill carriage," "ill accenting;" *ill*, seldom used now in that connection.

"The ill carriage of your line, or not fishing even to a foot in a right place."

"Either by practice or a long observation, or both."

"But take this . . . and not more," note the exactness of definition.

"Fall to breakfast," begin breakfast.

"Providence," timely preparation, frugality, economy.

11. "All excellent good," "stomach excellent good," adjectival for adverbial form.

"And now remember and find that true which devout Lessius says." If *what* were used for *that* which it would be difficult to place *says* in its best position, next the quotation.

"That poor men . . . poor men,"

"That . . . lord," indirect quotations in quotation marks, in accordance with the custom of the time.

"That you would rather be a civil, well-governed, well-grounded, temperate poor angler than a drunken lord." Would not "temperate, poor angler," balance against "drunken lord?"

Does not "temperate" involve the meanings "civil, well-governed, well-grounded?" "Rather," more willingly; never used as a verb, hence, since it is not an equivalent for

like better, "I would rather this than that," is wrong.

"I hope there is none such," quaint and charitable.

"Half the content," now contentment.

12. "Duc unto you by my promise," might be shortened.

"A smoking shower," compare with, a heavy shower; smoking is poetic, the vapour of water resembling smoke.

"It is done raining," compare with, the shower is over.

"Nay, and the earth smells as sweetly too," "nay and" moreover; note the quaint and subtle meaning of *nay*, not this alone; its force as a negative is very slight; "sweetly," we use the adjectival form in such a case.

"Holy Mr. Herbert," a popular writer and preacher in the reign of Charles II. His chief work was "The Temple." "His quaintness lies in his thoughts rather than in their expression, which is in general sufficiently simple and luminous." — Craik. Izaak Walton was Herbert's biographer.

"The other brace of trouts," this, as it stands means that they agreed to get two more trouts, or that there were only two other trouts where they were fishing.

POETRY.

L. 1. Sweet day, so cool, so calm, so bright

L. 3. The dew shall weep thy fall to-night.

L. 5. Sweet rose whose hue angry and brave.

L. 11. Thy music shows ye have your closes.

L. 15. But though the whole world turn to coal.

These lines are selected to illustrate the musical effect of open vowel sounds as to consonants. Scarcely any sibilants occur at the end of syllables. Liquids are copiously used.

In sound and meaning l. 1 produces a sensation of agreeable repose.

L. 3. Sorrow for the death of the day causes the tears of dew.

L. 5. "Angry," in anger the face is flushed, rose colour; *brave*, well-dressed, courageous.

L. 10. "A box where sweets compacted lie," instead of heightening the effect of the preceding line, weakens it by passing on from the natural *Spring, days and roses*, to the artificial scent *box*.

L. 11. *Thy*, antecedent *Spring*; *ye*, antecedent *days and roses*.

Only a sweet and virtuous soul,
Like season'd timber, never gives;
But, though the whole world turn to *coal*,
Then chiefly lives.

Coal, in old editions spelled *cole*.

Earle, while dealing with the adverbs *chiefly* and *verily*, says:—"It is curious to observe that the Romanesque languages should have taken the word for *mind*, as the material out of which they have moulded a formula for the adverbial idea; while the Saxon equivalent has grown out of the word for *body*; *vraiment, mens*, the mind; *verily, chiefly, lie*, the body.

As an illustration of this fact, and of the happy use of the word *chiefly*, he quotes the foregoing stanza. (Earle, p. 414.)

EDUCATION DEPARTMENT,
ONTARIO.

MIDSUMMER EXAMINATIONS, 1888.

Third-class Teachers.

INDEXING AND PRECIS WRITING.

Examiners: {Cornelius Donovan, M.A.
J. J. Tilley.

NOTE.—Candidates will take 3 and 4, and either 1 or 2.

1. LOCHIEL, April 16, 1888.

Received from Messrs. MacKay & Co., of Glegville, the sum of ninety-five dollars and twelve cents (\$95.12), in full of all demands to date. JAMES GRAHAM.

(a) Describe your arrangements for taking charge of incoming receipts, bills, invoices, etc.

(b) Illustrate, by diagram, how you would fyle away the foregoing receipt of James Graham.

2. Write the following sentences in as few words as possible:

Wisdom gives true judgment of earthly things and true judgment demonstrates their insufficiency to our peace.

Pride goeth forth on horseback, grand and gay,
But cometh back on foot and begs its way.

The aim of education should be to teach us rather *how* to think than *what* to think; rather to improve our minds so as to enable us to think for ourselves, than to load the memory with the thoughts of other men.

3. (a) Index (as for the town clerk) in tabular form the following letters:

(b) Write a precis of the letters.

DEAR SIR: GRABTON, April 1, 1888.

Having heard and read a great deal about the extensive water privileges possessed by your town, we are seriously thinking of transferring our milling business to Trentmouth. We will agree to erect there a mill worth \$50,000, and give constant employment to 300 hands, provided your corporation will grant us a bonus of \$10,000 and exemption from taxation for a period of ten years. I may state here that in case your council fails to come to terms with us we will carry our business to the neighbouring town of Belldale, from which we have already received fair inducements. An early reply will oblige.

Yours truly,

HOPPER & ROLLER.

The Town Clerk, Millers.
Trentmouth.

TRENTMOUTH, April 15, 1888.

DEAR SIR:

In reply to your favour of the 1st instant offering to open a new milling industry in this town on certain conditions, I beg leave to state that I laid your proposition before the town council at the time of its last regular meeting, when, after due consideration, it was resolved almost unanimously to decline your liberal offer. The people of the neighbouring town of Belldale know their own business best, and are free to act as they like in the matter; but as the ratepayers of this town have already suffered heavily from the granting of exemptions and bonuses, the corporation of Trentmouth has decided to let all future industries stand or fall by their own merits.

Yours truly,

WILLIAM WIMBLE,

Messrs. Hopper & Roller, Town Clerk.
Millers, Grabton.

4. Joan of Arc declined the munificent rewards with which royal gratitude sought to recompense her wonderful and invaluable services. Her mystic banner had made the besiegers of Orleans arise and flee, and had

subsequently waved in triumph at the coronation of Charles the Seventh at Rheims, and this prosperous accomplishment of her mission filled her mind with glorious thought, in the enjoyment of which she found, as regarded herself, a sufficient recompense. But for Domremy, where she had been born, where she had tended her father's flocks, and where visions and voices of saints had excited her to the enterprise of delivering her country—for that dear village she made request that it should thenceforth be exempt from taxation. The request was granted; and for three centuries and upwards did the register of taxes bear opposite the name of her native village "Exempt on account of the Maiden." From the period of the French Revolution, when so many historical associations were severed, Domremy no longer enjoyed the immunity commemorating the heroism of the Maid of Orleans.

(a) Make a precis of the foregoing extract.

(b) State the utility of precis writing.

FRENCH GRAMMAR AND COMPOSITION.

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

NOTE.—Not more than six questions are to be attempted, and of these Nos. 3, 6, 7, and 8 must be four.

1. Distinguish between, *pêcher* and *phêcher*, *livre* (masc.) and *livre* (fem.), *un brave homme* and *un homme brave*.

2. Write the plural word or words of, *sou*, *bijou*, *ciel*, *hôpital*, *eventail*, *aïeul*, *champ*, *noir*.

3. Give, with examples, the various uses of *tout*.

4. State the respective genders of *mouton*, *embouchure*, *Gironde*, *rêne*, *festin*, *jupon*, *parasol*, *peuple*, *contre-danse*, *Mexique*.

5. Classify the following adjectives according as they govern the preposition *a* or *de*, and deduce therefrom a general rule for the use of each preposition: *Adonné*, *plein*, *utile*, *cher*, *capable*, *digne*, *enclin*, *satisfait*, *propre*, *charme*, *ennuyé*, *prompt*.

6. Write in full the preterite definite of *savoir*, *vivre*, *aller*, *fremir* and *s'asseoir*.

7. Translate into French:

(a) How are you? It is a long time since I saw you.

(b) Honour is badly guarded when religion is not at the outposts.

(c) Napoleon the First died in the year one thousand eight hundred and twenty-one.

(d) It is ridiculous to put oneself in a passion against objects that are insensible to our anger.

(e) I doubt whether my brother would have succeeded had it not been for your assistance.

(f) Do not say to a friend who asks something of you, "Go, and come again tomorrow," when you can give it to him immediately.

8. Translate into French:

Mary hastened to carry the good news to her father. The ship was not slow in arriving; the king kept his promise, and John Maurice and his two children were put on board. They landed on a French island and were introduced to the governor. The latter having heard Mary's history and finding her a charming young person requested her hand in marriage. Maurice consented to the union and took up his abode in the island. John married a sister of the governor, and henceforth they all lived very happily together in that island, admiring the wisdom of Providence, who had permitted Mary to become a slave only to give her the opportunity of saving her father's life.

BOTANY.

Examiners: {M. J. Kelly, M.D., LL.B.
John Seath, B.A.

NOTE.—All candidates must take the first four questions, and may take in addition any two of the remainder.

1. Describe, classify, and name the plant submitted. What common Canadian plants are most nearly related to it?

2. Construct a floral diagram showing the symmetry of its flower and the relative positions of the different parts of the flower.

3. Explain the function of the stamens. In what sense may stamens be described as leaf-like organs? Draw, in outline, the various organs of the plant submitted which may in the same sense be described as leaf-like.

4. Examine a cross-section of the stem with a hand lens, and indicate by a drawing and description the different structures recognizable.

5. Describe Chlorophyll. State where it is found, and account for the varied tints of leaves in autumn.

6. What characters do Dicotyledons possess in common? State in what particulars there is divergence and give examples.

7. Describe the different kinds of food material stored up within seeds for the use of the contained embryos.

8. What constitutes the fruit of a plant? Describe and give the technical terms for the fruits in the butternut, elm, basswood, and horse chestnut. Distinguish the fruits of the butter-cup, marsh-marigold and pea.

9. Discuss the function of the coloured parts of the flower, and explain how the same end is attained by apetalous flowers.

LATIN GRAMMAR AND COMPOSITION.

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

NOTE.—Not more than eight questions to be attempted, of which the 4th, 5th, 7th, 8th, and 10th must be five.

1. Decline, in sing.: *Æneas, Cybele, deus, respublica, filius, pelagus, iurjurandum*; in plur.: *dea, Atrides, faber, sestertius*.

2. Give the gender, meaning, and gen. sing. of *jecur, plebs, femur, sidus, mas, ius*.

3. Give the fem. forms of *equus, asinus, leo*.

4. Distinguish: *castrum, castra; avis, avis; res, reus; gener, genus, genu; mores morae; fœminis, fœminis; decbris, decbris; clavis, clava, clavus*.

5. Translate: (1) *O terque quaterque beatus! (2) Martiis caelebs quid agam*

Kalendis? (3) Par nobile fratrum. (4) Unus et alter adest. Put into Latin: (1) Half as large again; (2) We have three horses each; (3) He was made dictator for three months.

6. Distinguish between the meanings of *is, ille, and iste*. What older form is there of *ille*? What is its adverb, meaning "at that time"? What other meanings has this adverb?

7. Give in pres. inf. act. the frequentatives of *dico, rogo, minor*; the desideratives of *edo, pario, scato*; and the force of the prefixes in *reitero, religo, invidéo, ambio, amitto, secerno*.

8. What constructions follow *dignus, impleo, caréo, potior, ego*? Distinguish *sic* and *am, num* and *nonne, non numquam* and *non unquam*.

9. Re-write in *oratio obliqua* (depending on *respondit*)—*Hæc nequeo facere; namque ea, quæ rogavisti, monitus sum ne faciam*; and give the rules for the moods therein.

10. Translate into Latin: All Gaul was divided into three parts, one of which the Belgæ inhabited, another the Aquitani, and the third a people who, in their own tongue, were called Celts, in ours, Gauls. All these differed from one another in languages, customs and laws. The river Garumna separated the Galli from the Aquitani, the Matrona and Sequana divided them from the Belgæ. Of all these the Belgæ were the bravest, because they were farthest from the civilization and intellectual refinement of the Province, and merchants resorted to them less frequently and bore with them those things which tend to enervate the mind, and because they were nearest to the Germæas who lived beyond the Rhine, and with whom they were continually at war.

CONTEMPORARY LITERATURE.

A NEW edition of the *Academic Dictionary* has just been issued by the J. B. Lippincott Company.

The Overland Monthly for October publishes an interesting article on "Fog and Fog Signals."

Science now contains five departments, exclusive of Book Reviews, Notes, Letters, etc. These are (1) Editorial, (2) Scientific News, (3) Health Matters, (4) Electrical Science, (5) Mental Science. All are carefully edited and contain things of importance to the student of science.

A STORY of Canadian life, written by an American lady, with illustrations by Mr. Sandham and a preface by Parkman, will be begun in the November *Century*.

The Decorator and Furnisher for October contains thirty-seven pleasing illustrations, many of them appearing in connection with the articles on "Ancient Decorative Iron-work," and "Dorchester House." *The Decorator and Furnisher* is published by the Art-Trades' Publishing Co., New York., and is an excellent magazine.

OUR esteemed professional contemporary, *The Academy*, gives this month's issue largely to articles on literature and science. We find those entitled respectively, "On Making the Study of Literature Interesting," and "The Scientific Advancement of the Age and its Relation to Education," particularly good. The latter, by Prof. Spalding, is a thoughtful presentation of the advantages of the study of science.

AN article by Archdeacon Farrar on "Count Leo Tolstoi," occupies the place of honour in the October *Forum*. The article discusses the life and opinions of this much-read author. Another important paper is that by Edmund Gosse on "Has America Produced a Poet?" every word of which is interesting. The great English literary critic is outspoken and vigorous in his treatment of the subject, and the discussion is a valuable contribution to the criticism of American poetry. Eight other articles, five of which are wholly or partly political, appear.

WITH the current number, Vol. VIII. (New Series, Vol. III.), of the *American Magazine* closes. This number contains the first of a series of articles on "America's Crack Regiments," the "Crack Regiment" being the "Seventh of New York." The article begins by quoting a favourable opinion from some "Britisher," and proceeds to detail the great deeds done by the regiment and the marvellous wisdom of its commanders. Four political articles, descriptive papers on the Orinoco, the Connecticut Valley, and the Great Red Pipestone Country, all well illustrated, help to make up a good number, in which poetry and fiction occupy a place.

THE fifth volume of the *English Illustrated Magazine* closes with the September number, which contains the second and last instalment of Henry James' short and sad Atlantic steamer story, "The Patagonia." The chief articles are "London Street Studies," "In the Carpathians," and "Hampton Court." *The English Illustrated* is now to be enlarged to seventy pages, increased space being devoted to the literary department. W. E. Norris and other favourite writers will contribute during 1888-9, and the fine "Old English Homes" series will be continued. Among the illustrations to be published during the year will be productions of engravings from pictures by Sir John Millais, R.A., Mr. E. Burne Jones, A.R.A., and others. It is gratifying to note the steadily increasing popularity of this good English art magazine.

WE have before us Nos. 14, 15 and 16 of volume I. of the *Dominion Illustrated*, the new Canadian Illustrated paper, published by G. E. Desbarats & Co., Montreal. Our readers, we feel sure, will join with us in expressing pleasure at its appearance and wishing it all success. No country in the world has greater wealth of material for pictures of scenery than Canada, and we believe that the *Dominion Illustrated* has an important place to fill. Among the engravings may be mentioned portraits of Sir Charles Tupper, Sir J. L. D. Thompson, Rifle Association men, and others, also views of Canadian scenery at the Laurentian Lakes and in the Selkirks, and pictures of the Trans-Caspian Railway and the French naval manoeuvres. We are glad to notice a growing improvement in the literary style of the contents, and hope that Canadians will give the paper their cordial and liberal support.

The Standard Latin Grammar. Harkness. Revised edition. 430 pp, \$1. Toronto: The Copp, Clark Co., Limited.)—The Education Department of Ontario has recently authorized Prof. Harkness' Latin grammar (revised edition), and a Canadian edition has now been issued by this enterprising firm. Those parts of the grammar intended for recitation have been but slightly changed.

Thanatopsis, and other favourite Poems of Bryant.—Prepared to accompany "Lockwood's Lessons in English."

A Guide to the Pacific Coast. (Rand, McNally & Co.)—An interesting illustrated guide book, adapted for railway reading.

Teachers' Manual Series. 7. *Unconscious Tuition.* Huntington. 8. *How to Keep Order.* Hughes. 9. *How to Train the Memory.* Quick. 10. *Hoffman's Kindergarten Gifts.* 15 cents each. (New York: E. L. Kellogg & Co.)—A convenient series of small hand-books for teachers.

Arithmetical Problems. By H. S. Hall, M.A., and S. R. Knight, B.A. Pp. 180, 2s. 6d. (London: Macmillan & Co.)—One more is added to the already extensive list of problem and exercise books in arithmetic. Few, however, will be found better than this.

First Steps in Geometry. By Richard A. Proctor. (London: Longmans, Green & Co.)—Papers by the late Prof. Proctor, which originally appeared in *Knowledge*, giving useful hints to beginners about how to try and find for themselves solutions to deductions, are here collected.

The American Newspaper Annual. (Philadelphia: N. W. Ayer & Son.) 1100 pp. \$5.—This complete guide for the use of advertisers, business men and others, is issued yearly. The 1888 edition is fully up to the times and contains a great deal of information, not only about newspapers, magazines, etc., but statistical and general.

Shakespeare. 1. *Henry V.* Pp. 272, 2s. 6d. 2. *Richard III.* Pp. 255, 2s. 6d. (London and New York: Macmillan & Co.)

—The series of "English Classics for Indian Students," to which these books before us belong, has been received with well merited appreciation, not only in India but in England and Scotland as well as in our own country. Edited respectively by Inspector Deighton, of Bareilly, and Prof. Tawney, of Calcutta, full of good and careful work, we recommend these two text books to our readers.

The New Arithmetic. Edited by Seymour Eaton. Pp. 229. Introduction price, 75c. (Boston: D. C. Heath & Co.)—The present is the fifteenth edition of this collection of arithmetical problems. It was compiled from material supplied by three hundred teachers, and contains a large number of good questions.

A Latin Reader. By H. J. Hardy, M.A. (London: Macmillan & Co. Pp. 164, 2s. 6d.)—The new reader consists mainly of easy stories from well-known Latin authors, and similar material from a variety of other sources. Most of these tales are short, intelligible and interesting. We have no doubt that the "Reader" will be useful.

On the Study of Words. By Richard C. Trench, D.D. Pp. 337, 1s. (London: Macmillan & Co.)—This, the twentieth edition of Archbishop Trench's work, has been revised by the Rev. A. L. Mayhew, and although the editor has aimed at expurgating any incorrect etymologies and using the latest work of English scholars in essential points, the book remains the same, unimpaired in value. Many teachers will be glad to avail themselves of this new and excellent edition.

Macmillan's Elementary Classics. 1s. 6d. each. 1. *Xenophon. Anabasis. Book II.* Edited by A. S. Walpole, M.A. 2. *Xenophon. Anabasis. Book IV.* E. D. Stone, M.A. 3. *Virgil. Æneid. Book IV.* H. M. Stephenson, M.A. 4. *Aulus Gellius. Selections.* G. H. Nall, M.A.—Our readers will be interested to note the additions to this convenient and excellent series. Number 4 is intended as "a change" from the ordinary run of Latin texts used in school.

Macmillan's Greek Course. 1. *First Greek Grammar.* W. G. Rutherford. 2. *Easy Exercises in Greek Accidence.* H. G. Underhill. 3. *A First Greek Reader.* F. H. Colson.—Mr. Rutherford's Greek grammar, first issued in 1878, has since been reprinted and re-issued six times. This alone is a gratifying proof of its value, but by no means the only one. It "states rules and leaves exceptions out," makes the explanations clear and short. The editor pays great heed to

arrangement. Number 1, intended to accompany number 1, is a "drill-book" with vocabularies. Number 3 consists of stories and legends, selected with due regard to simplicity, brevity and style, and is a valuable book.

Clarendon School Classics. (Oxford: at the Clarendon Press. London: Henry Froude.) 1. *Goldsmith, The Traveller.* Pp. 53, 1s. 2. *Johnson's Lives of the Poets.* *Millon.* Pp. 144, 1s. 6d.—The above-mentioned editions, carefully prepared for school and students' use by the Clarendon Press, according to representations made by the School Books' Committee of the Head Masters' Conference, really seem to meet every reasonable desire that one could form in reference to such books. (1) Edited by Mr. G. B. Hill, D.C.L., and (2) edited by Mr. C. H. Firth, M.A., equally merit the highest commendation.

Geographical Text Books and Atlases. 1. *The Cosmographic Atlas.* (Edinburgh and London: W. & A. K. Johnston.) £1 1s. 2. *The Historical Atlas.* (*Ibid.*) £1 1s. 3. *The Pocket Atlas of the World.* Edited by J. G. Bartholomew. 2s. 6d. (London: John Walker & Co.) 4. *The Pocket Gazetteer of the World.* (*Ibid.*) 2s. 6d. 5. *The Teaching of Geography.* Archibald Geikie. (London: Macmillan & Co.) 6. *Longmans' School Geography.* G. C. Chisholm. (London: Longmans, Green & Co.) 7. *The Essentials of Geography.* (Boston: The

New England Publishing Co.)—Even a brief description of the above-mentioned books would need a good deal of space. The teaching of geography is daily receiving more attention, and the whole subject is being raised from the dreary realm of lists of stupid names to the place it ought to occupy. We advise all teachers to read Prof. Geikie's book (2). *Longmans' School Geography*, (6) we are glad to notice, has been revised and brought up to date. The information about Canada, though necessarily brief, is now accurate, and the book will be found to possess considerable merit as a text book. (7) is an annual, sensible, publication; (3) and (4) are gems. (3) contains 63 maps, with index, statistics, etc., and (4) 540 pp., with maps. These two books are most useful, and their low price places them within the reach of many who cannot afford more expensive books of reference. We have left till the last the most important on our list—(1) and (2)—not that it is necessary to speak in praise of the works published by the most famous geographical publishers in the world, but we wish to draw the special attention of Canadian teachers to the fact that better atlases for school libraries cannot be procured. (2) is a new publication, and the student of history will find it a great aid. Maps are given to illustrate English and European history, also a volume of explanatory/historical notes. (1) is a beautiful large atlas of the world, containing 66 maps, indexes, explanatory letter-press, etc.

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Our readers will observe that special attention is given to examination papers in this Magazine; in many cases hints and solutions are added. We hope subscribers and others will show in a practical way their apprecia-

tion of the valuable work done by the editors of the different departments of THE MONTHLY.

We are grateful to the friends of THE MONTHLY who have, from many different places, sent us letters of approval and encouragement, and request their kind assistance in getting new subscribers for 1888.

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

Bound copies of this Magazine in cloth may be had from Williamsons & Co. or from James Bain & Son, King Street, Toronto, for \$1.00 per copy.