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THE CANADA
EDUCATIONAL MONTHLY
AND SCHOOL MAGAZINE.

AUGUST-SEPTEMBER, 1887.

ONTARIO TEACHERS' ASSOCIATION.

ADDRESS OF PRESIDENT H. I. STRANG, B.A.

[Special revision.]

FINDING it difficult to decide on any one topic for an address, and remembering that my duties as President would prevent me from taking my usual part in the discussions, I thought that it would probably be at once the easiest and the most profitable course for me to touch briefly on a number of subjects which are all connected with our work, and some of which might not otherwise come before us for consideration. I am quite aware that as regards some, if not most of these, anything that I may say, or any discussion that it may lead to, comes too late to affect the decision of the Department, or to be productive of any immediate effect. Nevertheless, I think it is of the utmost importance that we should speak our minds freely and fully. If we approve the policy and action of the Department, it is due to the eloquent and hard-working Minister who presides over it that we should strengthen his hands and encourage his heart by publicly expressing our approval. If, on the other hand, our

observation and experience lead us to regard a policy as unwise, or a regulation or an action as unfair, is it not equally due to ourselves that we should place our opinions on public record? There is no need that we should imitate the methods of the politicians or of the party press. It is surely possible for us to call in question or to defend the wisdom of a policy or the justice of an action without imputing unworthy motives or indulging in offensive epithets. I trust, then, that while continuing to claim for ourselves the right to the full and free expression of our opinions in regard to the policy and actions of the Department or its officials, we shall not forget either in our discussions in Convention or in our communications to the press to manifest a due regard for the rights of others, as well as for the dignity of our profession.

First, then, let me say a few words on the subject of examination papers. After a storm comes a calm, and, contrasting the almost entire absence of

public comment on the recent papers with the tempest of hostile criticism which those of last summer evoked, it would appear that the old age has been verified. Doubtless the storm cleared the educational atmosphere, and exerted a beneficial influence in other respects. Apart from the question of results, I believe it is the general feeling of both teachers and candidates that the papers this year were a marked improvement on those of 1886, and that, taken as a whole, they did not furnish much ground for fault-finding. The plan of having two examiners to each paper has apparently worked well, though in a few cases the associate has hardly been able to restrain the strong tendencies of the examiner-in-chief. Three points, however, may be mentioned in which there seems to be room for further improvement.

(1) The papers should be revised with the utmost care, in order that neither errors nor omissions may mislead or perplex the candidates, and handicap them in their efforts to pass.

(2) Every paper should be carefully revised by the committee as a whole, in order that the papers on each subject may be seen to be properly graded from entrance to first class certificates, and that such vagaries of individual examiners as manifested themselves in the third class history paper this year may be kept in check.

(3) The method adopted of giving bonus questions is open to serious objections. Not only does it virtually lower the percentage required to pass, but in some cases it allows a candidate who knows nothing well and does nothing well to make up that percentage from a large number of imperfect scraps of answers. Such at least has been my experience in connection with the entrance examination, and I am told that others have noted the same objections. I trust, therefore, that in future the method

adopted will be that recommended by the High School section last year, viz. : "that each paper shall contain more questions than the candidate is permitted to attempt," thus allowing him a choice, and giving scope for a variety of taste or teaching, but requiring him to do satisfactorily what he does undertake.

From examination papers to text books is an easy transition, and I shall, therefore, next touch briefly on that vexed and somewhat delicate question. As most of you are aware, that was one of the subjects on our programme as originally agreed on, and I for one greatly regret that the illness of Inspector Morgan, who had agreed to deal with it, led to its being dropped from the list. The subject is wide enough and important enough to require the most careful consideration, such as it would no doubt have received at the hands of Mr. Morgan. To an audience like this I need scarcely enlarge on the importance of our having suitable text-books. Text books are in a measure our tools, and while it is true that a good workman with poor tools will produce better results than a poor workman with the best of tools, we have a right to ask that we shall not be handicapped in our work by having to use inferior tools, if by pursuing a different policy better ones are to be had without any material increase of cost.

That under the present system of authorizing text books we may get some good, even excellent books, I am quite willing to admit; that under it we have already got some very unsuitable ones cannot, I think, be successfully denied, and that some of those recently issued or yet to see the light are likely to prove unsatisfactory there is, therefore, some reason to fear. That the Minister in adopting the present system has been actuated by the best of motives and

has honestly tried to carry out his professions and promises I do not doubt. Uniformity, cheapness, and adaptation to the wants and circumstances of our schools are all very desirable objects, but as we all know a good end may be sought in a wrong way.

The questions I desire to consider for a little then are (1) Is the present system theoretically likely to ensure our getting the best text books that are to be had for our schools? and (2) Have the results so far justified the wisdom of the system? For my own part I regret that I feel compelled to answer both questions in the negative. First, then, as to the probabilities of the case. We read in the circular recently issued that certain text books "will be authorized if found suitable." From this it is evident that the Department, if not directly concerned in the manufacture (using the word in no offensive sense) of these books, is at least aware that they are being prepared, and is directly interested in the result. This naturally suggests certain questions. How were the Department and the author brought into such intimate relation? Did the Department select some one to write the book? If so, by what divine intuition or by whose advice was the proper person to write such a book selected? If not, how did the Department learn that the proper person was engaged in writing such a text book, and at what stage of its preparation was the promise, now revealed to the public, first made to the author or to the publishers as his agents? To me it seems that from the time the promise, "will be authorized if found suitable" was given in each case (for the natural inference is that some at least of those already issued were prepared under the same conditions), neither the Department nor the author was a free

agent. The Department is not free, for if while Mr. A., relying on such an assurance, is using his best efforts to make his book suitable, Mr. B., who lives away at one side of the Province and knows nothing of what has been going on at the centre, comes forward with a better book on the subject, the Department cannot in justice to Mr. A. break faith with him and accept Mr B.'s book. It is evident then that competition is virtually excluded. Again, the author is scarcely a free agent, for, knowing that there is money in authorized books, and that the placing of his book on the list will add several hundred dollars a year to his income, he will naturally be desirous to make his book *suitable*, and will therefore be under a constant temptation to make it, not what he thinks it ought to be, but rather what he knows the Department thinks it should be. How far then, one is naturally curious to know, does the Department go in meeting the natural wish of the author to know what are the conditions of suitability? Does it fix the size and price, and—to use a nautical phrase—lay down the construction, lines, or does it ever go farther and revise the proof sheets and suggest omissions, additions and alterations? Report says that in one case at least all this has been done, and if in one probably in more.

In this connection another question naturally suggests itself, Who decides whether a book is suitable or not? "The Minister of course" will be the reply. Undoubtedly the responsibility of the decision is his, but by whose opinion is he guided in deciding? By his own merely, or does he look to others for advice? If the former, is it desirable or satisfactory that such should be the case? For my own part, highly as I respect the ability and judgment of the Minister, I am not content that the decision of

so important a matter should depend solely on his opinion, or, indeed, on that of any *one* person that can be named. If the latter, who are his responsible advisers, and why should we, who are so vitally interested in the matter, not have a voice in their appointment, and know what advice they give?

In speaking thus I need scarcely say that nothing is farther from my intention than to disparage the character or ability of the authors of the books referred to, or to imply that Ontario teachers are not able to prepare suitable and satisfactory text books for Ontario schools. I am only endeavouring to show that a system which excludes competition and virtually authorizes text books before they are written is essentially a bad one, and that we have no sufficient guarantee that the text books selected are the best to be had, or have been prepared by those best fitted for the task.

And now for a few words with regard to the results of the policy, as far as it has been tested. I shall not express any opinion in regard to the recently issued books, for we all know that the only true test of the suitability of a text book is its use for a year in the school room, and that our first impressions of a book, whether favourable or unfavourable, have often to be materially modified by our experience with it there. I merely mention in passing, and I do so from regard for the eyesight of our pupils, that I regret so free a use of very small type in the new Public School Arithmetic. Take then the list of authorized books that have been in use for a year or more. Of the Drawing Books I shall not speak, as I cannot lay claim to much knowledge of the subject with which they deal. That the Readers are a marked improvement on their predecessors I

readily admit, but that they are the best that could be had for the money is not so certain, nor am I sure that if left to depend on its merits the High School Reader would have found its way yet into general use.

Certainly, if the publishers are to be believed, there was but little sale for it until its use was made imperative in the schools. In the case of both it and the Fourth Reader I think the result has shown—what indeed the experience of the past might have suggested—that since they were intended to be used for teaching literature as well as reading, it would have been better, even though it would have necessitated the omission of some of the selections, to accompany each lesson with a brief preface and a few explanatory notes, hints and suggestive questions. Such a course would have left but little need or excuse for the compilation and extensive sale of the “Companion to the Fourth Reader,” and “Notes to the Third Class Literature.” As to the preface to the High School Reader, I am glad that I do not know who wrote or compiled it, for I can thus speak more freely in regard to it. Profound, philosophical and polysyllabic it may be, but of practical value in teaching reading to third class candidates it just as certainly is not. Such at least is my experience, and that of every master I have asked who tried to use it for that purpose.

The Manual of Hygiene I pass for want of time, but I do not think it would be hard to show that it is dearer than it need be, and that much of it has no proper place in a school text book. There remain then the Scripture Readings and the History. As to the former, we all know that a very great deal of nonsense, and worse than nonsense, has been spoken and written, in some cases by men who knew better, in others, by men

who did not know what they were talking about. At the same time enough has been made plain to show that there are serious defects in the book—defects which I confidently affirm would not have been found in it if it had been compiled by a committee selected either from or by this Association, or even submitted to such a committee for revision and approval before being authorized.

Lastly, as to the History. I have the greatest respect for the character and abilities of the authors, but whether it is that their abilities were directed into a channel in which they were not accustomed to flow, or that they were hampered by being under restrictions as to the mode of treatment they should adopt, I feel sure that I but voice the verdict of the great majority of those who have used it for the past year when I say that the book is a failure. I know that I have asked a great many teachers from different parts of the Province and have failed to find one that liked it or was satisfied with it, and these too are considered good and successful teachers. Into the causes of this verdict I do not enter at present further than to say that I believe the result to be largely due to a mistaken economy on the part of the Department, which in its desire to keep down the price, and yet to have the subject fully treated, forced the authors to make the book a mere compendium of directions, facts and opinions, presented in a rather dry and difficult style.

One point more and I shall leave the subject of text books. It seems to me on looking over the new list of High School text books and comparing it with the examination papers, that there is a want still left unsupplied. Candidates for Second and Third Class Certificates are, to judge from the examination papers, expected to be familiar with the laws of

the paragraph, the qualities of style, the characteristics of poetic diction, and the use of the principal figures of speech, but apparently they are to be left in the future, as they have been in the past, to learn these where and how they may. True, McElroy's *Structure of English Prose* has been added to the list of authorized books, but only for Forms III. and IV. Would it not have been well to prefix to the High School Reader an outline at least of what candidates are expected to know in regard to these matters when dealing with literature, such an outline for instance, though perhaps not so full, as was prefixed to the Advanced Reader of the Royal Canadian Series?

The next topic I had intended to deal with is the Departmental Regulations, but as I have learned since coming to the Convention that in accordance with the wish of the Minister these are likely to come before the several sections for consideration, I shall say but a few words. One thing I am sure we all regret, and the Minister I believe not less than the rest of us, viz., that it should be found necessary to make changes, and often important changes, in them so frequently.

The members of the High School section, too, while gratefully acknowledging that their burdens have been lightened in one respect, at least, by the steps that have been taken to assimilate the various examinations, will join in a general regret that, notwithstanding the great increase in the work and expense thrown on the High Schools during the past few years, the Department has not been able to secure for them any increase in the Government grant, or even to guarantee the payment of the amounts they had been led by the Regulations to expect.

One thing more in connection with this subject I should have liked, if

time had permitted, to dwell on for a little, viz., the proposed increase in the natural science required to be taught in our High Schools, and the apparent assumption that all our students are to be specialists. Under the circumstances, however, I shall content myself with quoting the following paragraph from an article by Prof. Payne in the *Academy* for February: "The employment of specialists to teach the sciences in the Secondary Schools has given currency to the fallacy that the only proper mode of teaching these subjects is by inductive, experimental research. The teacher has been trained in this manner, and since he was to be a specialist this was very proper; but when he comes to teach, he at once assumes that all his pupils are to be specialists, and here he falls into gross and dangerous error. For the present, the pupil in the Secondary School needs to know the facts of science as they are correlated by natural law, and also, by means of typical examples or experiments, to be made acquainted with the general mode of scientific procedure; but for the purposes of a general education he need not play the rôle of original investigator. Farther on, when the time for specialization has come he may very properly apply himself to inductive research. It is not teachers of science alone who have followed this false scent. I have seen masters and misses of twelve years sit in solemn critical judgment on Tennyson, Dickens, Hawthorne and Longfellow. For them a piece of literary art was not something to be admired and enjoyed, but a *specimen* to be dissected. Their teacher's ideal was the training of boys and girls to be literary critics."

The last subject to which I shall refer is the proposed scheme for the establishment of a College of Preceptors. You are aware that after a

brief discussion of Mr. Dickson's paper last year the scheme as outlined in it was referred to the various County Associations for their consideration, and that a Committee was appointed to collate the resolutions passed by them in regard to it and report to this Convention. In the absence of Mr. Dickson, who requested me to say that ill-health would prevent him from being with us, the report of that Committee will be presented by Mr. MacMurchy. I have not seen the report, but I believe I am familiar with the facts on which it is based, and I say frankly, that I cannot regard them as at all encouraging to the friends of the scheme. That it would not be viewed with favour by the "powers that be," and that the influence of a powerful denomination, moved, not unnaturally perhaps, by the fear of losing advantages at present enjoyed, would be thrown into the scale against it was perhaps to be expected. Possibly, too, it suffered in some quarters by being made to appear as a rival of the newly-formed Ontario Educational Society. Making all due allowance, however, for these adverse influences, there is, I think, no use in attempting to deny that the scheme, to use a common phrase, has fallen rather flat on the attention of both the public and the teaching profession. That the public should take but little interest in it, and should even at first look suspiciously on it as a device to raise teachers' salaries is perhaps not to be wondered at; but that a scheme for the elevation of the teaching profession and the advancement of its interests should, apparently at least, have been received with so much apathy and even opposition by its members seems to call for explanation. For my own part, while not denying that there may be other reasons for this result, I believe that the main cause has been a failure or inability

on the part of teachers to understand the scheme, and in particular to see (1) how it can be worked successfully in connection with the present school system, and (2) what direct benefits they are to receive in return for the payment of its fees and submission to its regulations. Whether this is the fault of the teachers or of the scheme the future will no doubt show more clearly.

While not wishing, therefore, to interpose any obstacle to the further consideration of the scheme, yet, believing that, owing to the various obstacles I have mentioned, any progress towards the realization of the scheme must necessarily be slow and is perhaps doubtful, I suggest that we should unite in advocating a simpler and more practicable change, one which would be open to fewer objections, and which, if it did not do as much for the elevation of the teaching profession as is aimed at by the advocates of the proposed College, would yet be of great service in removing or lessening many of the evils of which we have had reason to complain. The change I propose is the re-establishment of a re-organized Council of Public Instruction, or Educational Committee—chiefly elective, partly nominated, the members of which should hold office for a stated term and have definite duties and powers, assigned them by Statute, in regard to the selection of text books, the framing of regulations and programmes of study, the appointment of examiners, and such other matters as the Minister might refer to them. As the Minister would remain the responsible and executive head of the

Department, he would of course have to be allowed to retain the power of overruling the decisions of the Committee. Naturally, however, the deliberate decision of such a body would be but seldom set aside, and then only for strong reasons; and in cases where it was done teachers would at least have the satisfaction of knowing that duly accredited representatives of their own choosing had been heard in regard to the matter.

However, as I feel that I have already trespassed unduly on your time and patience I shall not discuss the proposal further at present, but merely state briefly what advantages I believe would result from the change.

1. It would enable us to place the responsibility for changes in the Regulations more clearly where it belongs.

2. It would prevent hasty action and troublesome mistakes in the framing of regulations, authorization of text books, etc.

3. It would tend to allay the dissatisfaction which at present exists.

4. It would minimize the evils that necessarily result from having a politician at the head of the Education Department.

5. It would, I cannot help thinking, afford relief to the Minister himself, who, knowing that the matters referred to such a Council would receive careful, deliberate and dispassionate consideration, would be, as he certainly should be, relieved from the necessity of devoting so much of his time and energies to the consideration of the details of programmes, examinations, etc.

Work for some good, be it ever so slowly ;
Cherish some flower, be it ever so lowly ;
Labour !—all labour is noble and holy ;
Let thy great deeds be thy prayer to thy God.

—*Frances S. Osgood.*

“ Taught or untaught the dunce is still the same :
Yet still the wretched master bears the blame.”

—*Dryden.*

CONFERRING OF DEGREES AT THE UNIVERSITY OF
TORONTO.

THE PRESIDENT'S ADDRESS.

IN undertaking the duties which devolve on me to-day, in the absence of the Chancellor, it is with a keen sense of regret, in which all will sincerely unite, for the cause which deprives us of the valued services of one who is specially honoured by the graduates and friends of this university. In his address last year, the Chancellor illustrated the steady and healthful progress of this institution by elaborate and statistical evidence. Without entering anew on the same instructive, if somewhat dry details, it is gratifying to be able once more to report increasing progress, and, as I believe, also still greater efficiency. The matriculation examinations, which have been harmonized with the requirements of the Educational Department, are more and more bringing us into closer relation with the High schools, and the whole provincial educational system. They are now held in fifty-one different centres, of which seven are north, fifteen east, and twenty-eight west of Toronto. Of the candidates, the number is not only considerably in excess of any previous year, amounting in all to 237, but there is a gratifying increase in the competitors for honours, alike in the ancient and the modern languages, in mathematics, and in all other prescribed requirements. The same is the case in the later years.

It is with very different feelings that I turn for a moment to the statistics of failure. Yet there are occasions when they constitute a truer test of the standard of work done than the number of graduates, so frequently adduced by claimants for superiority

among Canadian universities. It is scarcely needful to point out that the easier the test, and the more lax the examinations, the greater will be the number, not only to pass, but to resort to the facile avenue to honours. In the failures of recent candidates are accordingly embodied one unmistakable evidence of the value of the degrees this day conferred. The pre-eminent duty of the provincial university is to maintain a high standard, not to compete with other institutions in the numbers admitted to degrees. It is a special pleasure in our academic experience to congratulate the successful aspirants on the achievement of their well-earned honours; but this is too frequently counterbalanced by the pain with which failures have to be announced, traceable at times to illness, with its strong claim to sympathy; more frequently to the neglect of adequate physical exercise; but above all to slighting the priceless advantages here placed within reach, and neglecting with due and timely diligence to plough the classic field. The disastrous casualties of the recent examinations amount to sixty-six; a melancholy roll of victims for whose hapless fate our sympathy is due. As in former years, experience shows that the crisis of the under-graduate's course is in his second year; and it may be worthy of consideration by the senate, whether it is not burdened with an undue number of subjects, which may admit of retrenchment without affecting the high standard ultimately aimed at. Without encouraging the tendency to excessive specialization, it is essential that thoroughness shall not be sacrificed

in the effort to overtake the extravagant demands of a mere paper scheme.

In thus reviewing the crowning efforts in which the fruits of two busy terms have been brought to the test in the examination hall, the crucial work of the academic year is appealed to. But the past session has been one of special interest to us in other ways. When last year the Chancellor addressed you from this chair, the proposal for a federation of the universities of this province was under deliberation of a representative conference, and it remained uncertain whether a practical basis of union could be devised. We have not even now realized the grand ideal of one provincial university conferring on academic degrees its standard of value, as uniform and assured as the gold currency of the realm. But our progress is in that direction. An important step has been achieved in the passing of the University Federation Act, with the promise of greatly extended co-operation as its ultimate result. And here I cannot leave unnoted the gratifying evidence which recent events have set forth, of the progress which this institution has made in public favour. My own experience in the earlier years of its history familiarized me with party struggles in the Canadian Parliament, when more than once its fate seemed to tremble in the balance; and some among our foremost public men viewed with complacency the idea of abandoning this national university and dividing its endowment among denominational colleges. Happily the dangers of those critical years have been surmounted; and in the recent session of the Legislature the Minister of Education and the leader of the Opposition were seen vieing with each other in formulating a scheme that should furnish the surest guarantee for the growth and perman-

ence of an institution which commanded the unanimous approval of the House.

University federation is now a legislative enactment; we await with sanguine anticipations the needful steps which shall realize it as an accomplished fact. To Victoria University, though not to her alone, we turn in expectation of the friendly response by which they and we are to be made sharers in the results. We look forward with unalloyed pleasure to a time when in the near future a stately pile shall rise within our own academic domain as the fitting home of Victoria College, where in friendly co-operation, and in generous rivalry with ourselves, they will advance the work of higher education. We rejoice in the promise of an enlarged income for our own use; but it will still fall far short of the requirements of the ideal university; and if denominational liberality shall enable Victoria College, and, as we trust, by-and-by other colleges, to overtake some departments of philosophy or science in which we are inadequately equipped, our common university and our common country will be the gainers. To-day, I trust, they and we can heartily unite in acknowledging our obligations to the Minister of Education for the anxious solicitude with which he has aimed at reconciling conflicting interests, and rendering the national university more worthy than ever of the confidence and favour of the entire community. So far as recent legislation affects its internal organization, the changes harmonize with the aims of experienced educational reformers in the Mother Country. The Act of 1853, by which this university, as such, was converted into a mere examining and degree-conferring board, was expressly modelled on the University of London. But experience has greatly modified the faith in that system.

The necessity for some intimate relations between the teaching and the examining body has been abundantly proved elsewhere, by the growth of a systematized organization for mastering the average examination paper, instead of acquiring the substantial knowledge of which it is the assumed test; and now the demand is heard in London, and in Oxford also, for a teaching university. The creation here, accordingly, of a university professoriate, in conjunction with a group of affiliated colleges, is no empirical scheme, or temporizing compromise; but a healthful change that will tend more fully to restore those relations of the lecture rooms and laboratories with the examination hall which are urgently required in the true interests of higher education. If, too, as we are led to hope and believe, the lecture rooms of the university faculty are to be the common meeting ground of students from all the federating colleges; while they, in their turn, aim at pre-eminence in some special department of the common work, we shall achieve such a federation of colleges in cordial relation with the national university as will secure their co-operation in every movement for its greater efficiency. Nor can it be doubted that their united action in the determination of a common system, under the guidance of a senate constituted of elected graduates and the heads and chosen representatives of the faculties of all the federating colleges, each the custodian of religious training for their own denomination, must produce results acceptable to a community jealously sensitive of its educational advantages; whilst at the same time it so distinctly claims to be Christian.

In the important educational reform to which I have thus referred, the financial element is an essential factor; for, while fully appreciating its value, it is not to be overlooked

that the measure provides no addition to the endowments already set apart for higher education. The Legislature has, with scant liberality, contented itself with a mere rearrangement of resources devoted to that end by the wise foresight of those pioneers of Upper Canada by whom the light of heaven was first let in on our western clearings. In the desire to secure available funds, accordingly some grave sacrifices have been unavoidable. The demand for an adequate staff of professors embraced within its prescribed aim additional chairs in classics, oriental and modern languages, and comparative philology, in physics, metaphysics and ethics, in political and social science, constitutional law and jurisprudence; and as the latter are associated with the idea of a restored faculty of law; so physiology, botany, and other kindred sciences are provided for, with the view to a revived faculty of medicine. In this also we shall hope to secure the co-operation of existing schools and of the Medical Council, and so win for Toronto the reputation of a centre of scientific and professional training which will redound to the credit no less than to the profitable success of all.

But it is no wonder that with such demands on unrealized resources the Minister of Education has grasped at all available funds. The \$20,000 (an altogether inadequate price for the old King's College site), which had been destined by ourselves for expenditure on a much-needed convocation hall, has been utilized as a source of revenue. The appropriation hitherto devoted for scholarships in the several faculties has in like manner been assigned to provide professorial incomes. To-day, accordingly, we for the last time, award such foundation scholarships, and must in future depend for their maintenance on the liberality of generous donors, such as

those to whom we owe the Blake, the John Macdonald, the Mulock, and other scholarships; or to the wise appropriation of funds, such as in the case of the George Brown Scholarship so honourably associates the name of an eminent Canadian statesman with an institution in which he ever manifested the keenest interest. Carlyle, who himself went up to Edinburgh University, a peasant boy, and in spite of every impediment that straitened means could interpose, achieved for himself the culture which he turned to such marvellous account as the philosopher of a new era, applied the inheritance which accrued to him in mature years to found such scholarships, "for the love, favour and affection which he bore to his own University of Edinburgh," that he might thereby furnish "the timely aid from whence may spring a little trace of help to the young heroic soul struggling for what is highest." But in the communistic spirit of our age, a class of educational revolutionists has arisen, to whom scholarships, prizes, and medals are alike distasteful; and all the emulation which they inspire becomes in their eyes a source of envy and detraction. Scholarships are, moreover, denounced, because instead of being stamped with an eleemosynary character as the perquisites of poverty, they have been wisely reserved as the rewards of highest merit. Those reformers advocate accordingly the conversion of such scholarship endowments as we still possess into a charitable loan fund to be secretly administered on behalf of needy students. Whether or not, in this happy land of ours, so little burdened with the poverty that ages of misrule and impoverishing wars have elsewhere forced into rank luxuriance, there is need of any such charitable dole for its students, I leave for the consideration of others; but to me it appears to involve such

a sacrifice of manly independence, that there, and not in the open competition for scholarships, would seem to lie danger of moral degradation. But, whether or not such a system be compatible with true self-respect: with the experience of a lifetime to guide me, I utterly dissent from the idea that medals, scholarships, and other academic awards are conducive to anything inconsistent with generous emulation and honourable rivalry. The pretence that the competitors incur any moral danger is refuted by the loftiest exemplars. The contests among the Greeks, alike for intellectual and athletic supremacy, were stimulated by similar awards; and the great Apostle, when urging his converts to a like ardour in their high calling, finds his aptest illustration of the struggle and the triumph of the Christian life in Hellenic emulation for the victor's prize. When I recall the just pride in well-won honours with which men like the lamented Chief Justice Moss have here received such awards for rare gifts associated with their wise use in the assiduous pursuit of knowledge, I fail to find terms sufficiently strong for an adequate protest against a scheme that would degrade the palm of the academic victor into a charitable award for a needy mendicant. The very fact that the scholarship does at times revert to one to whom no pecuniary necessities add a value to the honourable award frees from all stigma a prize which nevertheless does frequently bring with it help that not a few have gratefully acknowledged in later years. To such, and to all the friends of true learning, I appeal, to aid in replacing the prizes and scholarships now withdrawn.

And now permit me to speak specially to you who have to-day assumed the *toga virilis* of intellectual manhood, and pass from the undergraduate ranks to the privileges and franchise

of the Academic degree. Our truest wishes go with you, as you now descend into a new arena to enter on the battle of life; equipped, I trust, morally as well as intellectually for the contest. I doubt not you will look back, in many a future hour, on the busy years spent in these halls. The more faithfully they have been employed the pleasanter will be the retrospect which makes them for you still redolent of joy and youth, to breathe a second spring. In looking back from even the happiest and most prosperous years in your future career, you will find few, if any, so radiant as this springtide of student life, in which no brightest dream has seemed to you illusory; when high hopes and generous aspirations have urged you onward to ever prouder achievements, till you have realized for yourselves:—

How charming is divine philosophy!
Not harsh and crabbed, as dull fools suppose,
But musical as is Apollo's lute,
And a perpetual feast of nectar'd sweets,
Where no crude surfeit reigns.

The very ceremonial by which you

have to-day been admitted to your degrees symbolizes much that you should lay to heart. The academic formulæ which we have borrowed from the universities of the Old World are in reality the ancient forms of admission to a fief. When you kneel before the Chancellor, and place your hands in his, you repeat the very same act by which the knight—when knighthood was still a reality,—took on him the vows of fealty; and with the hood in like manner, you receive investiture in your academic degree. And as the knight of old who proved faithless to his vow was proclaimed nidding and infamous: so you have to-day vowed allegiance to your Alma Mater, and are pledged in honour to be loyal to her in word and deed; to act up to the high standard of educated Christian gentlemen, “wearing the white flower of a blameless life.” By every motive of fidelity and true allegiance, see that no failure in nobility of aim or purity of life shall cast a stain upon her whose honours you bear away with you to-day.

THE QUEEN'S JUBILEE—VICTORIA REGINA, 1837.

BY A. H. MORRISON, BRANTFORD.

THE stepping-stones of the years pass quickly from under our feet as we cross the River of Time—that river, soon to mingle its little turbulency of ripple and plaint with the never-ceasing thunder of the eternal main. The flood and the ebb, the deep and the shallow, the rapid and the quicksand, compassed between the boundaries of the inevitable shores—a birth and a death—are crossed by the feet of the wayfarer, and, lo! he is not—

Our birth is but a sleep and a forgetting,

and all our little life

Is rounded with a sleep.

Forcibly are these truths brought home to us in the contemplation of the event we this year commemorate, the fiftieth anniversary of a sovereign's reign—the golden wedding of a ruler with her realm. Fifty years of thought and action are now numbered with the things that have been. The fiftieth stepping-stone of sovereignty has passed for ever from beneath the footfalls of the royal lady whose jubilee

we celebrate. Fifty summers have sparkled upon the surface of the stream, and fifty winters have chilled its unquiet bosom, since first the gracious face of eighteen smiled across the flood through her tears, and with step firm-planted, dauntless, looked to the farther shore.

"God Save the Queen," from hill to mart,
She heard through all her beating heart,

and turned and wept.

She wept to wear a crown !

The sovereign never dies—the curtain falls upon the last scene of the regal life-drama, and is again rung up ere yet the last accents of retiring monarchy have died upon the air.

The king is dead. Long live the king. And it is right that in a constitutional monarchy the sceptre should never in a sense be relinquished. Though the paralyzed hand drop the symbol of rule, yet must it be caught and wielded by the potent living, even while the quiescent dead is borne to his last resting-place to tread the stage of earth no more.

So it came to pass that half a century ago the magic wand was yielded up by the nerveless hand of the Sailor King to his fair successor, the Princess Victoria Alexandrina, born at Kensington Palace, May 24, 1819; "her parents, who had been for some time residing abroad, having hastened to England in order that their child might be born a Briton."

It has been truly said, "There is no music like the voice of an echo. Not the sweetness, richness, or grandeur of its tones, but its mysteriousness, gives it pre-eminence." Such is memory, the echo of the past, of the footfalls on the years that bridge the stream,

Boundless inward, in the atom; boundless outward, in the Whole.

Thus may half a century, with all its boundless influences for outward

good or evil, weal or woe, be compassed in the circlet of a thought, a single reminiscence, and all the crowding events of the years are germed in the invisible atom of a memory. One by one the events unfold and burgeon anew at the prompting of the life-giving will. Illustrious Westminster with its thronging associations opens its portals June 28, 1838, to admit the royal maiden, re-opens them to give exit to the crowned monarch of the little land

Bound in with the triumphant sea.

And, anon, she stands a winsome bride by the altar of her love, with all her faith in her eyes and all her homage in her heart, for the one so wisely chosen, so loyally served, so bitterly regretted, so tenderly remembered, who, at the great Commander's signal, himself resigned the truncheon of office to join the shadowy hosts of the departed wise and good. Echoes of peace come from the misty past, and echoes of unrest; echoes of voices raised in the cause of a policy of quiet and non-intervention, and hoarse murmurings and dissonances, the noisy diatribes of faction, of policy and of greed. But so must it ever be. The still profound of the deepest sea must have its surface vexed by the tempest breath of Time and the passion trappings of his minions. Yet have the echoes of war not rolled in vain. They have died away over the emancipation of right and the suppression of wrong. The bayonets of Liberty have not glistened upon fields of outrage, nor have the hoofs of her chargers rung across the plains of aggression; and though Alma's stream rolls red through the twilight of the past, and the maidans of far away Hindostan are dabbled with the blood of her children; yet not far behind in the middle distance is seen the bear with bloodshot eye, prepared to raven on a weaker and defenceless

foe, and the dread wall of Cawnpore yawns to heaven for vengeance on its victims, its outraged womanhood and mangled infancy, immolated at the shrine of a fanatical cult. Even Mercy must sometimes turn to avenge her own. And not unwisely nor unthanked has the victor ruled beneath the palm. From the mango *topes* of the sultry plain to the sun-flushed heights of "the abode of snow," have come faintly and intermittently over the waves, the echoes of a more peaceful fellowship and a kindlier homage. Not untimely or with insincerity has the Hindoo high priest lately written: "May that great Empress under whose protection religious ceremonies have been practised without molestation for fifty years, may that august Empress, Victoria, live long! The lustre of her reign, which illumines the hollow vales of the wilderness and the concealed places, and which brightens the sight itself, has, like a second sun, made India blossom like the lotus, by dispelling the gloom of injustice originating from the severe tyranny of Mohammedanism." True echoes these of British rule and British justice from the mists of the half century now dead. But, if the echoes of war be not absent, the echoes of peace are many, present and abiding, still reverberating in our ears as they will reverberate for ever.

The shackles have fallen from the wrists of creed, and Liberty casts over the votary the shadow of her ægis. Not more truly have the bonds of the slave been loosened, than have the immortal instincts of a free-born people been given free access to the avenues of reason, to interpret as they may, to worship as they will. The gyve of the captive has mouldered into rust, and the pitiful clank of the girding chains of religious intolerance no longer render funereal the echoes of the past. There where the shade of Cobden takes shape from the mist,

wells forth the first faint utterance of free trade. Grandly the accents of the master fall upon the ear: "that every man and every nation should be free to buy in the cheapest and sell in the dearest market, without the laws interfering to favour some particular class of producers." That faint voice has since swelled into a mighty sound as of rushing waters, the most potent echo of the Victorian age.

And the children that were "weeping in the
playtime of the others,
In the country of the free,"

have not cried in vain to the moulders and wielders of the destinies of the Empire. Few happier events can a nation witness than the emancipation of the serf. To see the fetters struck from the corporeal limbs of the captive is a sight worthy of men and of angels; but when the prison houses of ignorance and vice are touched by the magic wand of progress, and at the "open sesame" of the spirit of education, these pour forth their thousands and tens of thousands from the black shadows of mental thralldom into the highways of light, then, indeed, may the gods themselves rejoice, for nobler work is there none. "The entire people have good schools placed within the reach of their children." Under this beneficent provision has many a poor shadow, erst slinking, shame-faced, through the slums, been induced to issue into the open day, to let the free sunlight fall upon his features and illumine his soul, has come out to proclaim himself a man and a brother, indeed; and has lived to prove that even such as he are human and worthy, and that the great poor are the legacy of the great rich for ever. Grand legacy of immortal souls trooping into the light from the very confines of despair and death! aye, worse than death, the desperation of hopeless sentience, the apathy of passive being. Truly can

man be God to his brother—his brother's keeper; for God resides not in immeasurable space, gauging the depths, ever looking out over star-strewn wastes, silent witness to the ceaseless revolutions of the cycles, but on earth, in men's hearts is he shrined, immortal, very God of very God, yet very man: for in the image of God created he him.

The shadows throng thick at fancy's call, and the echoes make never-ending murmur, like the voicings of distant waves calling to their fellows by surf-haunted shores. The echoes of great deeds consummated, of great inventions perfected, of great works accomplished, of heroic struggles and achievements at home and abroad. The electric wire flashes its message through the still depths to the tireless throb of the unquiet waves above, linking the lands. Verily, has science girdled the earth, and snatched the Promethean fire from heaven. The iron monsters, steam-propelled, obedient servants of man, do his bidding, patient and unwearying, across the breadths of continents and the vastnesses of oceans. The tiny missive of friendship and love, linking hearts, as the cable bears its burden of greeting and tenderness from pole to pole, from meridian to meridian. The ballot has emancipated the voter from thralldom, and the free press—alas and alas! that it, the resplendent mirror of men's minds, should ever be put to ignoble uses—has opened men's eyes, that else had been closed in a night of Cimmerian darkness, and educated men's intellects to a purpose higher than a mere livelihood, to aspirations more lofty than a life of inactive ease.

But behind the echoes throng the shadows, shadows cast by the sun of a past generation, which witnessed the birth-wail of the mighty realities—realities that stepped into the Victorian era, some that strode master-

fully into its middle term, some that have touched its last lustrum, while here and there is one left yet to assure us that the others have been. Iron Wellington, "the hero of a hundred fights," yielded not up his sword to the invincible till the sun had circled some fifteen times round Victoria's throne. Peel and Palmerston have relinquished the helm within the memory of living man; Stanley and Arnold have instructed Victoria's liegemen; Wordsworth, gentle singer, saw the reign and passed away; and Macaulay, brilliant star, waxed and waned; Thackeray and Dickens laughed and wept and moralized in its sunshine ere seeking the shadow-land of their creations; Carlyle, gnarled and rugged oak, lightning-scathed, opened his giant limbs to the light, and hoarse and menacing, sometimes gruesome, but ever pregnant with purpose and meaning, was the sough which the strong wind made among the branches; Turner painted, and went to the sunlight through the mists he so regally depicted; Stephenson, Brunel and Paxton built their enduring monuments ere their own frame crumbled; George Eliot, greatest of great women, kindly and true, philosophized and has now solved life's enigma; Ruskin, Tennyson and Browning are left to connect the past with the present, to inspire hope for the future, to disprove the statement of them who say that the dead centuries rob us of our great, to return them no more.

While shadows such as these rise at Memory's call, hope, not despair, should sit at the gates of the future, should animate for fresh achievement the worshipper at the hero-shrine, should stifle the thankless plaint regarding the futility of modern method, the lack of modern merit. And above all is the dome shadow of a gracious and virtuous court. The valhalla of an earlier rule has given-

place to the benign influences of decorum and a rigid virtue. Not vainly has the girl-queen paced across the stepping-stones. Her first, though light, has left its impress on the years. Gracious maiden, staunch-hearted friend, loyal wife, tender mother and virtuous sovereign, what better record to transmit to the generations to come! Not fulsome praise this, but merited. Just meed to a life now stooping from its meridian splendour gently to the west. The potent sovereign of a prosperous realm; the undisputed mistress of an extensive and many-peopled empire; the guardian of a hundred colonies which throw out their infant arms to the future, as they pace with steps yet tottering in the path of their beloved mother. Truly the sun which shines on Victoria's jubilee has not dimmed since that far day when the maiden, with throbbing heart, pledged the fealty of her life and earnest endeavour at the shrine of her country's honour!

One more shade separates from the throng, and one more echo sends its ripples pulsating into the outer void of the centuries, growing as they grow, increasing with their increase, and fraught with a mighty meaning, an

enduring faith, a devoted purpose. 'Tis the shade of the land of the north, fair Canada! and the echo is her voice of greeting. From the crimson of her maple-clad slopes and the shadows of her pine lands; from the wastes of Labrador and the waters of her giant lakes; from the bases of her far-off mountain chains, and the resources of her mighty rivers; from the ice barrier, which guards the portals of the northern lights, and the silver zone which girdles her wave-lapped shores, reverberates the echo swelling outward to the mother land—the mother queen.

May the great queen whose jubilee we celebrate retain her greatness undimmed for many years; may it increase, and may her empire blossom as the rose; may she go forward strong in faith and strong in virtue; may her best wishes be accomplished, and may the good work so well begun be transmitted to the future as a deathless legacy to be furthered and consummated by her descendants. True to herself, Canada can still be true to the mother-land; for in her big heart she has room for all—her own and England's honour, her own and England's queen.

THE VEDAS.

BY A. J. EATON, M.A., PH.D., M'GILL UNIVERSITY.

(Continued from June-July No.)

WE have already referred to the time and place of the composition of the Vedic hymns, and briefly sketched other conditions of their origin and growth. As a language, it is scarcely possible to over-estimate the importance of the Sanskrit, and especially of the Vedic dialect, exhibiting as it does the elements, their meanings and modes of combination

in a far less changed condition, in a more unconventional and natural development than the later Sanskrit or its sister languages. But more than this, it embodies a delightful literature of the highest interest, at once to the historian, the comparative mythologist and the reading public. To give an adequate idea of the original, by way of illustration, is still, we

regret, quite impossible, except to the student of Sanskrit. No mere prosaic rendering, even if we possessed one, could do full justice to these poems. The entire change that has arisen in the mode of thought and expression often precludes the possibility of thinking from the standpoint of the native Indians, or expressing their subtle distinctions. But in the English language we cannot lay claim even to a good prose translation, for Wilson's can no longer be depended upon as giving any adequate sense of the original; such has been the progress made in Vedic studies since his day. In French, we have Langlois', which Max Müller calls "the ingenious, but thoroughly uncritical, guesswork of a man of taste." Ludwig has given us a complete German translation, which, as containing the latest researches, and being the work of a thorough Sanskrit scholar, is no doubt the most accurate we possess, but too frequently obscure.

We speak of the Vedas, for the Vedic literature is fourfold; but the oldest of these was called *Rig*, which signifies "praise." The other Vedas were made up largely of extracts from the *Rigveda*, forming song-books and prayer-books, and consisting of such verses and formulas as were to be sung or recited at the various sacrifices and ceremonials.

3. THE HYMNS OF THE RIGVEDA.

As already stated, the *Rigveda* is a collection of religious lyrics, in ten books, comprising 1,028 hymns, in extent about equal to that of the Homeric poems. It may, in fact, be called the *Iliad* and *Odyssey* of Indian literature. The collection was closed about 1000 B.C., and for nearly three thousand years has been orally transmitted with such painstaking care, that it has suffered no changes—a fact that cannot be af-

firmed of any other classical literature of antiquity.

That these poems are of very different worth will surprise no one who considers that they have been written by poets of diverse merits, some of whom were separated from one another by, at least, a thousand years. Many of the songs are the splendid creations of truly gifted poets, while not a few may be found tedious and unimportant. Their prevailing tone is the outpouring of the heart in its freshness and simplicity, a prayer to the Eternal in the heavens—eloquent expression of the simplest emotions of man's soul; of thoughts to him inspired by the gods. It has been said that "the overwhelming interest of the *Rigveda* consists in the picture it presents of the Aryan mind in its childhood." But amid these child-like conceptions, there are not wanting proofs of a degree of civilization and culture that could only be the product of centuries. We ought rather to say that we have here the spontaneous outbursts of a people in the robust spirit of early manhood, endowing the inscrutable phenomena of nature with the attributes of superior beings. So that in the early Vedic hymns, we find the sky, the clouds, the sun, addressed in natural language, and under names which afterwards become the names of Hindu deities.

In the progress of the Indian nature worship, a classification was attempted and order introduced. We have the gods of the heavens, the gods of the air, and those who dwell upon earth. Since the hymns in each book are arranged in the order of the deities addressed, we will now glance briefly at the leading divine personages in the Vedic Olympus, mainly for the purpose of presenting some specimens of these ancient hymns.

The representative of the gods upon earth is Agni. He is the god

of fire. "Born of the floods (clouds) of Heaven, he first visited the earth as lightning, and when he disappeared again, a hero, Mātariśvan, another Prometheus, brought him back to man." He is the messenger and mediator between gods and men, because he it is who brings the offerings to the gods, and the gods to the sacrifice. "As a bright banner, he flames aloft and bears heavenward our glowing prayer." Agni was a favourite and distinctively Hindu god. The songs addressed to him are the most numerous, and are honoured by occupying the first and the last place in the collection.

The most prominent of the gods of the air is Indra; the god that the Vedic singer most delighted to honour. He, too, is a god of fire, viewed as an elemental force, as Agni was adored essentially as sacrificial fire. He wields the thunderbolt, as he drives his chariot along, the rattling of whose wheels is the thunder. The lightning rends asunder the dark storm-clouds, that the rain may fall, refresh and less the thirsting earth. He proves victorious over the demons Vitra, Ahi, and Çushna, which, 'like enormous snakes or dragons lie around the water-floods (clouds) and oppose them and the light of the sun in their course to the earth.' "He who, having destroyed Vitra, sets free the seven rivers, who recovered the cows, who generated fire in the clouds, who is invincible in battle, he, men, is Indra." Relative to the personification of these phenomena of the heavens, and the tremendous impression they made upon the simple mind of the Hindu, Mr. Muir says:—"The growth of much of the imagery thus described is perfectly natural, and easily intelligible, particularly to persons who have lived in India, and witnessed the phenomena of the seasons. At the close of the long hot weather, when every one is longing for

rain to moisten the earth and cool the atmosphere, it is often extremely tantalizing to see the clouds collecting and floating across the sky, day after day, without discharging their contents. And in the early ages when the Vedic hymns were composed, it was an idea quite in consonance with the other general conceptions which their authors entertained, to imagine that some malignant influence was at work in the atmosphere to prevent the fall of the showers, of which the parched fields stood so much in need. It was but a step further to personify both this hostile power and the beneficent agency, by which it was overcome. Indra is thus at once a terrible warrior and a gracious friend, a god whose shafts deal destruction to his enemies, while they bring deliverance and prosperity to his worshippers."

To Vāta (Lat. ventus), the god of the wind, who also dwelt in the middle kingdom, the following hymn is addressed:—"I celebrate the glory of Vāta's chariot, its noises rending and resounding; touching the sky, he moves onward making all things ruddy. Hasting forward by paths in the atmosphere, he never rests. First-born friend of the waters, holy, where was he born, whence has he sprung? Soul of the universe, this deity moves, as he lists; his sounds have been heard, but his form is not seen; this Vata, let us worship with an oblation." (X. 168).

Among the gods of the upper air, or heaven, were the two Aḥvins, the Aryan Dioscuri, and Ushas (*Eos, Aurora*). Some of the most beautiful hymns of the collection are in praise of this lovely maiden, the precursor of the brilliant sun-god.

"Dawn on us with prosperity, O Ushas, daughter of the sky, with great glory, with riches, O luminous and bountiful goddess.

"Ushas has dawned; let her now

dawn; the goddess who impels our chariots, which at her arrival are borne forward, like wealth-seekers in the Ocean.

"In thee, when thou dawnest, O lovely goddess, is the life and breath of all creatures; resplendent in thy massive car, hear our invocation."

The idea of the celestial sea, encompassing the world, is personified in Varuna (*Ἠριανός*). He is the god of peace as Indra is the god of war. The songs addressed to Varuna are numerically less than those to Agni or Indra, but they assume a higher tone, reminding one of the Psalms and the language of the Bible. The poets picture him as "the all-wise Creator, the ruler and preserver of the world, the omnipotent guardian of the good, and the avenger of the evil, holy and righteous, yet full of compassion."

"Wise and mighty are the works of him who stemmed asunder the wide firmament. He lifted on high the great and glorious heaven; he stretched out apart the starry sky and the earth.

"I ask, O Varuna, wishing to know this my sin. I go to the wise. The sages all tell me the same: 'Varuna it is who is angry with thee.'

"What was the awful crime, O Varuna, for which thou wishest to smite thy friend, who always praises thee. Tell me, thou unconquerable lord, and I will quickly turn to thee, with praise, freed from sin.

"Absolve me from the sins of our fathers, and from those we have committed in our own persons. It was not our will, Varuna, but some seduction that led us astray—wine, anger, dice or thoughtlessness. The stronger perverts the weaker. Even sleep occasions sin.

"Let me, without offence, give satisfaction like a slave to his bounteous lord, the god, our support. The lord god enlightened the foolish;

he all-wise gives bounteously to his worshipper.

"O lord, Varuna, may this prayer go well to thy heart. May we prosper in keeping and getting. Protect us, O ye gods, always with your blessings." (VII. 86.)

Outside of the purely religious pieces in the Rigveda, there is a class of poems, not very numerous, which relate to marriage; some are historical and philosophical. The humorous or satiric vein is found in a panegyric of the frogs, clearly a satire upon the priests. Max Müller remarks upon this: "It is curious to observe that the same animal should have been chosen by the Vedic satirist to represent the priests, which by the earliest satirist of Greece was selected as the representative of the Homeric heroes." Another hymn is more tragic than satiric. It depicts the unfortunate addiction to the dice and the lament of one who cannot overcome the habit of gambling.

"The tumbling air-born products (*i.e.*, dice, for which they used the nuts of a tree) delight me as they continue to roll on the dice-board. The exciting dice seem to me like a draught of the soma-plant on Mt. Mujavat.

"When I resolve not to be tormented with them, because I am abandoned by my friends, yet as soon as the brown dice, when they are thrown make a rattling sound, I hasten to their rendezvous, like a woman to her paramour.

"Hooking, piercing, deceitful, vexatious, delighting to torment, the dice dispense transient gifts, and again ruin the winner; they appear to the gambler covered with honey.

"They roll downward; they bound upward; having no hands they overcome him who has. These celestial coals scorch the heart though cold themselves." (X. 34; Muir.)

Under the class of philosophic

poems by far the most important is the one upon the creation, which we here give entire, and without comment.

"There was then neither nonentity nor entity; there was no atmosphere, nor sky above. What enveloped all? Where, in the receptacle of what? Was it water, the profound abyss?

"Death was not then, nor immortality; there was no distinction of day or night. That One breathed calmly, self-supported; there was nothing different from, or above it.

"In the beginning darkness existed enveloped in darkness. All this was undistinguishable water. That One which lay void, and wrapped in nothingness, was developed by the power of fervour.

"Desire first arose in It, which was

the primal germ of mind; and which sages, searching with their intellect, have discovered in their hearts to be the bond which connects entity with nonentity.

"The ray which stretched across these worlds, was it below or was it above? There were then impregnating powers and mighty forces, a self-supporting principle beneath, and energy aloft.

"Who knows, who here can declare, whence has sprung, whence this creation? The gods are subsequent to the development of this universe; who then knows whence it arose?

"From what this creation arose, and whether any one made it or not, he who in the highest heaven is its ruler, he verily knows; or perchance even he does not know."

(X. 129; Muir.)

UNIVERSITY EDUCATION IN THE UNITED STATES.

BY CHARLES KENDALL ADAMS, PRESIDENT OF CORNELL UNIVERSITY.

(Continued from April No.)

IT will be seen from what has been stated that all the changes that have come about have been made in the direction of greater freedom. The tendency has been unmistakably in the direction of that *Lernfreiheit* to which the Germans attach so much importance. It should not be supposed, however, that these changes have come about without opposition. On the contrary, those conservative elements that are found in such abundance in all educational affairs have offered a stern resistance. The opposition has taken on two forms. The first has asserted and stoutly maintained that there is no form of study at all comparable for the development of intelligence with the study of the ancient languages. By some of the advocates of the reform this

assertion is denied, by others it is admitted. Those who admit the position still maintain that the assertion proves very little, inasmuch as the question is, not whether Greek and Latin are the studies best adapted to the improvement of those who pursue them, but whether if Greek and Latin are not taken there shall not be certain other studies offered in their place. In other words, if the student *will* not take Greek and Latin, shall he be compelled to take nothing, or shall he be permitted to take some other study even though it be of secondary importance? The other objection to the reform is founded on what may be called a mistrust of the ability or disposition of the student to use the liberty of choice without abusing it. It is an

odd anomaly that in a country that prides itself so much on the liberties of the people, there should be so little faith in the beneficial effects of liberty among the students of our universities. At the middle of their course the students in the American universities are now about twenty-one years of age. In many of the universities the average age at the time of taking the degree varies not more than a month or two from twenty-three years. And yet in many quarters it continues to be thought that the student of twenty-one and more should still be held to as rigid a course of study as that which was marked out for him at sixteen or seventeen. Within a few months at least as many as two formidable articles in as many of our leading reviews have made ponderous efforts to prove that students cannot be trusted, and that if they are given their liberty they will elect the easy things, neglect the hard things, and so spoil their education. In many quarters this distrust of the student's judgment or purpose has been strong enough to stand up in face of all experience. It seems to forget that even if an opportunity is sometimes lost, the fact is only the concomitant of every form of human liberty. Everybody knows that liberty is always subject to abuse. Under the privilege it grants, it is the more possible to do the wrong thing, for the simple reason that there can be no opportunity of doing the right thing without a corresponding possibility of doing the wrong one. The possibility of taking the easy and unimportant things must be granted; for along with such a possibility goes also that opportunity of thoroughness which is the only condition of the highest success. And thus it happens that the very best attainments are found only in those schools where negligence is possible, and even not

uncommon. It is only under the stimulus of liberty that the largest results are possible; it is only under the opportunities afforded by the same liberty that neglect of opportunity is most easy, if not most prevalent.

That the new system has not resulted in any general abuse, has been abundantly shown. Five years ago the impression became somewhat prevalent that the large freedom now given to the Harvard students resulted in somewhat general neglect and abuse. The overseers of the university were said to share this opinion. But whether the current report on this subject was correct or not, it was certainly true that they imposed a decisive check on the further movements in the same direction proposed by the president and corporation of the university. This action led to a very important investigation of the whole subject. The next report of the president contained a very elaborate system of tables, showing precisely what each student had elected during the series of years since the elective system was introduced. The result could hardly have been more conclusive. The figures so far carried conviction that the overseers not only reversed their action, but approved unanimously of the policy which, under the light of more imperfect information, they had strenuously opposed.

As was to be anticipated, this reform has met with a hearty appreciation from the public. The sense of freedom, the conscious privilege of selecting those studies that one desires, the larger range of possibilities in the way of attainments in one's favourite pursuits, all these added to the attractiveness of the universities that had adopted the new methods. A large influx of students is the result. While the classes in the colleges and universities that still adhere to the

former methods remain very nearly what they were twenty years ago, the classes in all of those institutions that have adopted the new methods have nearly or quite doubled in numbers within the same length of time. In 1870 the number of students in the Academic or non-professional department of Harvard was 608; in 1885-86 the number had increased to 1,006. Twenty years ago, Cornell University did not exist. The first class graduated in 1869. At present the corps of instruction consists of about eighty persons, and the roll of students has more than eight hundred names. A similar prosperity has marked the universities of Michigan. These three institutions, though differing somewhat in their characteristics, are the most typical and marked examples of the new methods. Within the last ten years all of them have received abundant evidences of public favour.

From another and a higher point of view the beneficial results have been even more striking. Perhaps the most potent reason for the reform was the inducement held out by the new method for long-continued study in the direction of the student's individual choice. While it was foreseen that a few students would straggle through the four years of their course in an aimless kind of way, it was still hoped that a large majority—even a very large majority—would choose their studies wisely, and pursue them steadily to the accomplishment of some very tangible results. It may fairly be said that this hope has not been disappointed. The tables published by President Eliot show conclusively that a vast majority of the young men know what they want, and go about accomplishing their ends in an intelligent and praiseworthy way. But there is a kind of evidence that figures cannot give. It is in the spirit, in the prevailing tone,

of the institutions that have adopted the new methods. It is the subject of universal remark that there is less of boyishness and more of manliness. The prevailing spirit is one of far greater earnestness. This general temper of the students, united with the greater opportunities offered, has brought about most excellent results. It is not too much to say that within the past ten years a far higher plane of scholarship has been reached than was possible under the old system. A student's ideas soon after he enters on his university course begin to crystallize in the direction of his aptitude and preferences. As early as the second year he enters on the fulfilment of his purposes. In the third and fourth years he is able to carry on his studies even into the most advanced stages offered. The consequence is, that at the time of receiving the baccalaureate degree he has learned far more than under the old system was in any way possible. And so it has happened that studies in Greek, in Latin, in the Oriental languages, in history, in the mathematics, in political economy, and in all the sciences, are carried very much farther than it was possible to carry them twenty or even ten years ago. An inspection of the courses of instruction now given at either of the typical universities named above will show that university work of a high character has at last become possible and practicable. Advanced studies carried on in the methods of the German "Seminar" were first introduced into the University of Michigan, but they have since become common at Cornell, and have finally been somewhat generally adopted at Harvard. The beneficial results cannot fail to show themselves in every field of learning.

No account of the tendencies of higher learning in the United States could be complete without some ade-

quate reference to the work of Johns Hopkins University. No other institution within the past few years has attracted so much attention. This has been owing partly to the great excellence of the instruction given, partly to the peculiarities of its organization and methods, and partly to the fact that it has laid great stress on the publication of accomplished results. Through the various journals and serials that were established at the university early in its history, the public has been kept advised in a very efficient manner of the work that has been done in the several departments of knowledge. But it can hardly be said that Johns Hopkins University has a very intimate historic connection with the educational system of the country. It did not grow out of the root, but was rather grafted into the old stock. It was founded in the belief that the time had come for the establishment of a university that should do for American scholars what the German universities are doing for them. During the last twenty-five years some hundreds of American students, after completing their collegiate course, have annually gone to Germany for more advanced instruction than could be obtained on this side of the Atlantic. Why should there not be established in America some one institution that should obviate the necessity of a Transatlantic voyage? The fundamental idea should be the giving of instruction in the most improved methods that would supplement the instruction given in the other colleges and universities of the country. It should be a university established primarily for those who had already taken the Bachelor's degree. Here was the field which Johns Hopkins University undertook to occupy. It was not absolutely new ground, for all of the older universities had provided courses of instruction for graduates

and fellows. But its peculiarity was in the fact that all its strength was primarily devoted to instruction to those students who had already taken the first degree. It was as though one of the colleges of Oxford or Cambridge should say, We will not teach undergraduates; we will only have to do with those who have already received the degree of Bachelor of Arts. Our efforts will be simply to do the most advanced grade of work as a means of preparing specialists for the profession of teachers. This was the position of Johns Hopkins University. It did not aim to secure the attendance of large numbers; it desired rather to attract those who, desirous of completing their outfit for the work of teachers and professors, would otherwise have been attracted to the universities of Germany.

The success of the experiment has been abundant and gratifying. The nature of the work has afforded every encouragement to advanced and original investigation, and the results of such investigations as have been made have been given very generously to the world. Whether in founding the university the necessity of establishing ultimately an undergraduate course was contemplated is not perhaps very certain. But such a necessity has made itself felt. This end was probably favoured, on the one hand, by local demand; on the other, by the assistance that a preparatory department would give to the advanced work for which the university was more especially established. It still remains true, however, that the prominent characteristic of the Johns Hopkins University is its work with graduate students, while it receives such undergraduates as offer themselves. The stress of its effort is devoted to its advanced classes. It is perhaps needless to add that it is from this characteristic that the university is so widely and so favourably known.

In the various realms of university work there is nothing more interesting, or indeed more important, than the change that has been going on in the minds of scholars during the past few years on the subject of political economy. Twenty years ago the scholars and the politicians were separated in their beliefs by a sort of impassable gulf. The political economy of Adam Smith and his followers was accepted by the academic teachers almost without exception. The books that made an impression were those of the great founders of the science—of Ricardo and of Mill. The doctrine of *laissez faire*, as ordinarily accepted, was universally taught in the colleges and universities. It was a common remark that in the schools everybody was taught "free trade," while in business everybody came to believe in "protection." This sharply defined difference was not the result of accident. Both classes followed their own teacher. The system of protection advocated with such power by Henry Clay and Mr. Carey was given to the multitude with consummate skill by Mr. Greeley and the other editorial writers of the day. The consequence of these diverging tendencies was, that while the policy of the nation was firmly held to the doctrines of a protective tariff, what might be called the more scholarly part of the community was coming more and more into an acceptance of the doctrines of Mill and Cairnes. Fifteen years ago, among all the teachers of political economy in the country, not more than one or two of any prominence could be named who did not advocate the policy of free trade. The political economy of the Manchester school came to be regarded as the only orthodox form of economic faith and doctrine.

It is patent, however, that a great change has now taken place. While on the one hand a very considerable

number of prominent manufacturers have declared themselves advocates of free trade, on the other a still more conspicuous number of teachers of political economy either are avowed advocates of protection, or, what is perhaps more common, are in favour of occupying a middle ground between the opposing theories. There has grown up what may be called a new school of economists. These, for the most part, are young men who, under the influence of German instruction, have adopted the German historical methods. Nearly all of the younger economists have studied in Germany and have fallen under the powerful influence of Roscher, Wagner, or Conrad, and have brought the ideas so acquired to their new fields of instruction. While in several of the universities upholders of the *à priori* methods are still in positions of predominant influence, it is undoubtedly true that at the present moment a majority of the teachers in our colleges and universities are to be ranked as belonging to the historical school. It goes without saying, therefore, that the doctrines of free trade are not so generally or so dogmatically taught as they were ten or fifteen years ago. The tendency is probably very nearly akin to that which appears to be prevailing in England. The views and methods of Rogers, Jevons, and Sidgwick are now much more generally accepted than the views and methods of the economists that led public opinion a generation ago.

The movement as a whole, however, is to be regarded as a favourable sign of the times. It is certain that at no time in the past has the study of political economy been carried on so earnestly and so thoroughly as at the present moment. In all of the universities the classes in this subject are large, and in many of them the most difficult questions are considered with a care and a thoroughness that

was formerly unknown. More than all this, within the last few months two important journals have come into existence for the discussion of questions of political economy and political science. The *Political Science Quarterly*, edited by the Faculty of Political Science in Columbia College, is devoted to the whole range of questions indicated by its title; while the

Quarterly Journal of Economics, edited by the Professors of Political Economy at Harvard, is to be confined more narrowly to a special field. Both of these journals have the flavour of a careful scholarship, and their first appearance, almost simultaneously, must be regarded as among the more auspicious signs of the times.—*Contemporary Preview*.

SCRIPTURE LESSONS FOR SCHOOL AND HOME.

NOTES ON ST. MATTHEW'S GOSPEL.

NO. I. AUTHOR AND OBJECT.

I. **HIS NAME AND WORK.** Levi, son of Alphæus. (St. Mark ii. 14.) After his call name changed to Matthew. (Ch. ix. 9.) Matthew same as (Greek) Theodore, meaning "Gift of God." Other instances of changing names: Simon became Cephas or Peter (St. John i. 42), Saul became Paul (Acts xiii. 9).

His work, that of tax-gatherer at Capernaum, to collect tolls from fishing vessels on lake. Such collectors of taxes called publicans. Often in bad repute for excessive charges. Rebuked by St. John Baptist. (St. Luke iii. 13.)

II. **HIS CALL.** One day addressed by Christ. Bidden to follow Him. (Ch. ix. 9.) Probably already seen Christ's miracles, and heard Him preach. Perhaps expecting summons. Obeys at once. Anxious for his friends to meet Christ. Invites fellow-publicans to a feast. Others come in, according to Jewish custom. "Publicans and sinners." Pharisees object. Christ explains that He came to call sinners to repentance.

Classed with Thomas in list of Apostles. (Ch. x. 3.) No other mention of him in Gospels or Acts. Always calls himself "Matthew the

publican," showing humility of character.

III. **HIS GOSPEL.** First written of the four Gospels. Probably few years after the Ascension. Written first in Hebrew, for use of Jews in Palestine. Afterward translated into Greek.

(a) *Object*.—To show Christ as the King. Prophesied of in the past—to reign in the future. Written specially for Jews in Palestine. Shown as follows:—1. Many prophecies quoted (i. 22; ii. 5, etc.). 2. Jewish words and customs not explained. (Comp. xv. 2 with Mark vii. 3). 3. Law of Moses explained in Sermon on Mount (v. 27, 33, etc.). 4. Genealogy traced only to Abraham (i. 1).

(b) *Characteristics*.—1. Facts simply stated (ch. ii.). 2. Order of time not strictly observed. 3. Many sermons and discourses (v., vi., vii.). 4. Prophecies as to the future (xxiv., xxv.). 5. Ten parables in this Gospel only (xiii. 25, etc.).

(c) *Analysis of the Gospel*.—1. The King's Birth and Childhood (i. 1 to ii. 23). 2. His Forerunner and preparation for work (iii. to iv. 11). 3. Works and signs (iv. 12 to xvi. 12). 4. Predictions of the Passion (xvi. 13 to xx. 34). 5. The King's Triumph

(xxi. to xxv.). 6. The Passion and Resurrection (xxvi. to xxviii.).

IV. LESSONS. 1. *Gospel*. Glad tidings of Saviour for all, not only Jews. 2. To *copy* St. Matthew's humility and quiet work. 3. To *obey* Christ's call at once.

NO. 2. GENEALOGY AND BIRTH OF CHRIST.

To read—*St. Matthew i.*

I. GENEALOGY (1 to 17). Note the following points:—

(a) The Book, *i.e.*, pedigree—taken from public documents carefully preserved by Sanhedrim.

(b) Genealogy shows Jews that Christ claiming to be Messiah is of the House of David.

(c) Divided into three sets of fourteen generations each, making even number; but some steps omitted.

(d) Names of four women mentioned, Tamar (Gen. xxxviii. 24), Rahab (Josh. vi. 17), Ruth (Ruth i. 4), Bathsheba (2 Sam. xi. 3), showing Christ to be very Man, descended from sinful men.

II. BIRTH OF CHRIST.

(a) *Mother*.—St. Matthew omits Annunciation of Angel Gabriel to Virgin Mary. (St. Luke i. 26.) Mentions betrothal to Joseph. Mary, like Joseph, of royal descent—House of King David. Joseph poor—a carpenter—somewhat despised (xiii. 55). God reveals will to Joseph in a dream. Many means used by God for making His Will known, thus:—By His *Voice* (Gen. iii. 8), *Visions* (Gen. xv. 1), *Dreams*—frequent in Old Testament; only two; besides to Joseph, in New Testament, viz., the wise men (ii. 12), Pilate's wife (xxvii. 19).

(b) *Place*.—Story of Roman Emperor's (Cæsar Augustus) decree for each head of family to go to native place told by St. Luke (ii. 1); therefore Joseph takes Mary to their ancient home, Bethlehem. There—in stable, in poverty and shame—Christ was born.

(c) *Name*.—Jesus—told Joseph in a dream—meaning "God the Saviour." Same name as Joshua. Two men of same name types of Christ: Joshua—captain of the Lord's host, who conquered Israel's enemies (Josh. i. 5), and Joshua—High Priest—who resisted Satan (Zech. iii. 1, 2). Matthew quotes prophecy of Isaiah (Isa. vii. 14), giving another title, Emmanuel, "God with us."

Notice Christ had many *titles* referring to His work, *e.g.*, Good Shepherd (St. John x. 14), Corner-stone (Eph. ii. 20), Rock (1 Cor. x. 4), but only one *Name*—Jesus—at which all, sooner or later, will bow. (Phil. ii. 10.)

(d) *Cause*.—1. To save a lost world (1 John iii. 5—8), shown by His name. 2. To declare God's will and love. (Heb. i. 2.) 3. To fulfil all types and prophecies. (Verse 22.) 4. To give man perfect example. (1 Peter ii. 21.)

III. LESSONS. 1. From *Mary*—simple trust in God's will. 2. From *Joseph*—not to judge harshly. 3. From *Christ*—self-sacrifice, humility, and love. (Phil. ii. 8.)

WAITING.

CARE not, if some outstrip thee in the race:
The race is not unto the swift or strong;
Thy gift will wait for thee, however long:
No hand but thine can take it from its place.

Care not, nor haste: there is no soon or late,
But all things have their seasons—stars to rise,

Each star its place and moment in the skies;
And thou must teach thy anxious heart to wait.

How many years, in God's eternal plan
The elements had waited, till they found
Their point in time's great circle rolling round,
To make thee what thou art, O Son of man!

No hand may touch the wheels of God's design

To hasten or retard them; and no power
Can keep thee at the one appointed hour,
From finding that which right pronounces thine.
Samuel V. Co.e.

BROADER CULTURE NEEDED.

ONE of the sorest temptations that beset our common school teachers, and professional educators in general, is the inclination and tendency to become mere specialists, in the narrow sense of the term—mere mechanical schoolmen. Their duties are so many, their time so fully occupied with the routine work of the schoolroom, that they are naturally apt to confine their studies and activities, even their ambition, to the attainment of proficiency in what they consider the most immediately necessary practical qualifications for the specific task before them.

The same temptation is felt to a greater or less degree in all professions. That is why there are so many narrow-minded theologians, bigoted scientists, lawyers who know nothing outside of Kent and Blackstone, doctors who are like fish out of water in polite society. But in no profession is such a one-sidedness of development more inexcusable, more harmful, than in the professional educator. He, above all others, needs to be many-sided. It is essential to the true fulfilment of his lofty calling to be a man of a genuine, broad culture. That this need is not sufficiently realized and appreciated among our teachers, superintendents, and directors, and in our normal schools, is one of the great weaknesses of our public-school system. Our teachers have, as a rule, been open to the reproach of being mere "walking text-books," nothing "but teaching machines." While possessed of great technical skill, being adepts in arithmetic, in grammar, in geography, in penmanship, etc., they often have not enjoyed the respect of cultured society, or have not been admitted to it at all, because utterly lacking that breadth and com-

prehensiveness of mental attainment, that general information, and especially that refinement of the sensibilities, of taste and feeling, which are the fruits of a well-balanced and symmetrically developed mind and character, the marks of the only real education, the characteristics of true culture. This lack has, of course, greatly lessened the influence of our teachers outside of the schoolroom.

But its injury to their comfort and usefulness has been even greater in their specific work of teaching itself. Not only has it been the chief cause of the purely mechanical methods, the bare text-book teaching, that is still too prevalent; it has made the attainment of the only correct ultimate aim of all our education an impossibility. For that aim is not the mere training of a few of the intellectual faculties of our children, but the equal and harmonious development of all of them, and of their tastes and feelings, their judgments, desires, sympathies, and aspirations, as well—in a word, the laying of the foundations for the highest culture of their whole character. And this cannot be done by rule. Its first condition is the possession of such culture by the teacher himself. He can never impart what he does not possess. Its chief means are personal example and influence. Nothing cultivates the finer, higher nature of the pupil, so surely and readily as simple intercourse with a teacher of true culture and refinement. The mere presence of such a one in the schoolroom is an education. As was once said of a lady of rare refinement, as well as of literary and heart culture, "To know her is a liberal education."

And even in the work of technical instruction, experience abundantly

shows the value of a liberal culture on the part of the teacher. In the long run he is the best teacher of arithmetic, geography, grammar, reading, history—who knows most besides, outside of these special branches. Who are our best teachers to-day? The narrowly technical pedagogues? No, but those who have the most liberal education, the widest, broadest culture. They are the ones who rise most steadily in the profession. They are the ones who are coming rapidly to fill all the highest positions, simply because they are the most competent and best fitted for them.

It is, therefore, to our normal students' and our teachers' own immediate interest to take advantage of every means for their liberal culture, and to use them diligently, as a necessary, indispensable part of their work and study. Not to do it only incidentally, when they happen to get the time, but regularly, system-

atically, to *take* the time for it. It is essential to their true success as teachers, and to the highest usefulness and continued progress and improvement of their noble profession. The means of paramount importance to all true culture is the right use of the right kind of literature. It is essential to become familiar with the classic productions of the past and present. Therefore, do we give all possible attention to the best works of general literature, the leading essays, poets, historians, critics, novelists, all books acquaintance with which is necessary to them who would become the best teachers, real educators. Believing on the whole he is the best teacher who is the best reader of the best literature, we want to help our readers by guiding them against worthless ones; and shall endeavour to do all we can to merit their confidence in us as honoured and earnest guides.—*Pennsylvania School Journal*.

NOTES FOR TEACHERS.

ENGLAND.—The committee of the Board School Children's Free-Dinner Fund, London, say that the movement for providing free dinners for the poorer children in the board schools originated early in 1882, from a sad revelation that was made to a few earnest friends of the poor, of the deplorably insufficient supply of food on which many of these children were doing their school-work. The public by degrees supported the charitable effort thus made. A marked improvement in the look of some of the children takes place after a brief attendance. It was Victor Hugo's experience that a good dinner partaken of only once a fortnight was sufficient to strengthen destitute children's constitutions against the inroads of disease;

and experience in this matter goes to prove that a substantial meal given but two or three times in the week is enough to work a marvellous change for the better in many an enfeebled constitution.

HOW THE SUEZ CANAL IS WORKED.

—1. The number of ships in the canal at the same time is sometimes very great. In December last, for example, fifteen steamers cleared the canal, of which seven were outward bound. The previous day nine cleared, and the day before seven, so that during the 8th some thirty ships were probably at one time in the canal. Sometimes there are as many as forty, and all are under the control of the French gentleman sitting at

his desk in an upper chamber at Terreplein.

2. The method of working is excessively simple. Against the wall at one side of the room is a narrow shelf or platform, along which runs a groove. At intervals this trough or groove has deep recesses, and at two places these recesses are of a larger size. This trough or groove represents the canal. The recesses are the sidings. The larger intervals are the Great Bitter Lake and Lake Timsoh.

3. When a vessel is about to enter the canal at, say the Suez end, a small toy boat or model three inches long is chosen to represent her. A group of these model ships stands ready beside the model canal, each furnished with a flag. About forty have the English flag, ten or a dozen the French flag, and so on with other nationalities. As the steamer comes up and her name is known it is written on paper and placed on the toy boat.

4. The whole number of ships thus actually in the canal at any moment can be seen at a glance; and, as the telegraphic signals give notice, the toy boats are moved along, or placed in a siding, or shown traversing one of the lakes at full speed. Signals are sent from the office to the various "gares" prescribing the siding at which each ship must stop to let another meet and pass it. The offi-

cial who is on duty keeps the models moving as he receives notice. He takes care when perhaps two ships, going in opposite directions, are both nearing the same siding, to give timely warning to the pilots in charge by means of the signal balls and flags at each station under his control from the office, and to direct which of the two is to lie up and which to proceed.

5. Unless in the case of accidents, the whole arrangement goes like clockwork; the clerk can read off in a moment the name, tonnage, nationality, draught, and actual situation of every steamer. He can tell what pilot she has on board, what is her breadth of beam, what rate she is moving at, and everything else which has to be known about her. He is able without an effort to govern all her movements, to prescribe the place where she is to pass the night and the hour at which she is to get under weigh in the morning, although he does not see her and probably never saw her in his life.

6. The fees which vessels pay for passing through the canal are often enormous. Some of the large liners of the Peninsular and Oriental, or the Orient service, pay as much as £1800 in making a single transit. For every passenger half a napoleon, or 8s. 4d., is charged. Three-fourths of the ships that go through the canal are English.—*School Newspaper.*

EDITORIAL NOTES.

OUR COUNTRY.

WE greet our friends and fellow-teachers fresh from the rest and relaxation of the past few weeks. We return to our classes invigorated in mind and body, full of zest and lighted up by the remembrance of beautiful surroundings, of communings with Nature and with Nature's God.

We come with our stock of general information increased, not from books, but by the constant companionship of the mountain or the sea, the quiet inland lake or rushing river, the sweet music of the birds and of the gentle trickling spring and rill by the hill side, the beauty of flowers, of waving fields of grain and rich pasture land.

A few may have visited the

"Home Land." These will be able to speak from personal observation of many historic places, of the renown and glory of the past and the present time. Others may have visited the busy cities of the neighbouring republic, and will have noted with interested attention many points wherein the two peoples differ, as well as hailed with satisfaction much, very much, that is common to both nations—notably the spirit of Christian love which is gradually but surely being developed. The large number, however, have spent the resting time in our own beloved Canada, but, fellow workers, wherever you have been straying, if you have been living the true life, you have been advancing, and in this increase of power your pupils will share. As the ordinary routine of school life goes on again, you will have many things to say to them, facts and illustrations which will readily occur to you out of your recent experience. You will be better able now to assist them in their efforts to be good and pure and true—to love and reverence the Great Giver of all blessing, and by directing their attention to their country's resources and to its past history, you can also help them to love that country and to be Patriots in the true sense of that word.

Perhaps we are in danger of forgetting that Canada has a history of her own, that it was *here*, in our land, on our great water highways and through our forests, that the earliest discoverers on this great continent forced their way step by step before many—in some instances before any settlements were made in what is now called the United States of America; that to the Canadian people belong the names of Cabot, Cartier, Champlain, La Salle, Marquette, Hudson, Davis, Baffin, Selkirk and of many other great and good men.

The chequered history of the early

settlement of Acadia is ours; the struggle up the St. Lawrence and the lakes to the head waters of the Mississippi is ours; the voyages to Hudson Bay and even the early journeys across the Rockies to the Pacific slope are ours; the men who ventured their lives and fortunes to accomplish these things were the pioneers of the hardy Canadian race. But there is a later history. Had Canadians no share in what historians call the early English settlement of America? Had our forefathers no part in the building up of the prosperous cities? No share in reclaiming the forest lands of this continent before 1783? And when at last the great revolutionary war came, were there no heroes on the losing side? Were there no men good and true that preferred British rule when the peace was proclaimed?

Have we forgotten the sacrifices that were then made? Can we recall the hunger and privation to which these noble men and women were exposed who *chose*, at that trying time, to make Canada their home? Do we now bear in mind that the coming of the United Empire Loyalists to Canada (sad and dreary as their lot at first was) gave a decided impetus to the settlement of the country, and encouraged an enterprising class of emigrants from the Old Land to come in and lay the foundation for the future possibilities of our great Dominion?

Teachers, tell the children about the history of their country, urge them to become familiar with the story of the English people, but let there be a *continuation* of that history, a story of early and later Canada.

Tell the young people about the geography of their country. Some of you have seen the great Pacific slope, the grandeur of the Rocky Mountains, the billowy beauty of the prairies. Tell them of the countless streams that find their devious way to our great inland lakes, of the *surprises* in

grandeur and beauty that greet the tourist who leaves the great highway of travel. Tell them again of "Father St. Lawrence" in his rocky splendour, of the inlets and bays of our Atlantic coast, of "Mild" Chaleur, of health giving, romantic Fundy—all beautiful for situation. Do not allow them to leave your care with the mistaken notion that in order to succeed in business they must seek the great cities of the United States? Correct for them the supposition that for rest and relaxation they can only go to the watering places of that country or look into its luxurious homes. No, there are resting places in Canada such as few other countries can show; there is some culture and intelligence among ourselves, and not a few shrewd, patriotic and intelligent men of business. We certainly take pleasure in visiting our United States cousins, they are our friends and neighbours, we admire and imitate the "good" and "true" among them, we welcome heartily and warmly their visits to Canada, we like their good men to stay with us, we will gladly hold all *legitimate* business and commercial relations with them. There is at least "fish" here for both nations, but in doing this we will be true to our own country—to this good land; we will unite in developing its ample resources. We may indeed "hasten slowly" consistent with the spirit of our people which shows no favour to "rush or display," but prizes highly its free constitution, its wise laws—constantly enforced—and its peaceful Sabbath days.

"Love thou thy land with love far brought
From out the storied past, but used
Within the present, and transfused
Through future time by power of thought."

THE CUSTOMS LINE.

HOW is it your people differ so from us on the other side of the lakes? I cannot explain it to myself. I have been here in your

city (Toronto) for a few days and the difference strikes me sharply: even your children present an unaccountable air to me, and, to be frank, the balance is in your favour. You show a steadiness, a respect for law, age, order that we lack on our side and the want of which has been sorely troubling our ministers, teachers and school officers for years past.

So, a few years ago, to the writer, spoke an intelligent minister of the gospel, of the city of Boston; who had for some fourteen years served his country and then was serving it in the performance of his duty as a trustee of the Common Schools of that city of culture so much famed in America for its Public Schools. To the same import were the words spoken by a Nova Scotian, while addressing the supreme court of his church. He was recently arrived from Great Britain, just on his way home to his native province from a brief sojourn in the United States of America. This was a few years before the important event of the Confederation of the Provinces took place. In eloquent and weighty words he pointed out to the laity and clergy of his country their responsibilities and duties in view of the fact, which sharply and clearly forced itself on his attention, as if for the first time, the unmistakable cleavage between the two countries. The difference is clear, said he, it is in the air, manner, genius of the people, much more palpable to the seeing eye than the beautiful Niagara or the majestic St. Lawrence. "We are two peoples." Most true it is that those two peoples have many things in common, very many: the major part came at first from the same stock, all are subject to the same code of laws in general terms, and use the same language and the same religious ideas also prevail on each side of the great lakes.

At this day there is no need of

restating the historic fact that the forces of the mother country, aided by the colonists, permanently relieved from foreign and hostile pressure the adventurous settler as he sought to explore the country west and north-west of the Ohio and Mississippi rivers, and, as inclination or expediency dictated, made settlements in these vast and fertile lands.

It is curious, to put it mildly, that those regions on this continent which Great Britain authoritatively proclaimed to the world as free to her subjects only, are no longer hers, though occupied by an English-speaking community. And the regions which did not acknowledge her rule in these comparatively remote times are now the heritage of all her sons, who prosper, and rejoice to perpetuate her fame, laws and institutions. No less strange is it to observe that she has lost more than once, territory which belonged to her by all fair interpretation of solemn treaties and has only held what she now possesses on this side the Atlantic by war and preparations for war against those whom she had so amply befriended in the momentous Seven Years' War which finally settled whether we were to have in America a New France or a New England. When the schism came in 1770—1783, those who held dearer than worldly goods, dearer than life itself, the integrity of the empire, the traditions and glories of the red-cross flag, the maintaining of the spirit of forbearance and filial attachment, moved themselves and all theirs into the land which still paid homage to the British Crown. That voluntary act

on the part of these valiant men and on the part of all those who cast in their lot with them, necessarily involved the drawing of the "customs line." In this connection we wish very specially to keep green in our memories that, through causes deeply rooted in the history of New France, the Canadians had ever regarded the English colonists in America as their enemies, far more than the English themselves, and, therefore, when driven to a choice between the two, they remained true to England, and their wise choice has been justified to this day. "God save the King" is no longer heard in France. It was buried with the people's loyalty ten fathoms deep under the ruin of the monarchy. But it flourishes still with pristine vigour in New France, that olive branch grafted on the stately tree of the British Empire."*

Custom houses and excise dues with all the necessary appliances of men and means do not come into existence and remain from generation to generation simply for collecting money. There must be, out of sight of the unthinking, and deftly ignored by the designing intriguer, reasons and principles of which the customs line is only the visible exponent. To seek to bury the reasons and principles of our existence as a separate community from that on the other side of the line, though having so many characteristics in common, is plainly to kick against the pricks established in the days of the fathers and cherished now by all sober-thinking sons whose aim is first pure, then peaceable.

* *Le Chien D'Or.*

THE school officials of Boston have posted notices in all the school buildings of that city, forbidding the chewing of tobacco by

the pupils. They have even posted the notice in the girl's High School building—much to the indignation of the young women.

SCHOOL WORK.

MATHEMATICS.

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

EDUCATION DEPARTMENT,
ONTARIO.

MIDSUMMER EXAMINATIONS, 1887.

Second Class Teachers.

Examiners—W. H. Ballard, M.A., C.
Donavan, M.A.

Time—Two hours.

Solutions by J. L. Cox, B.A., Math. Master,
Coll. Inst., Collingwood.

NOTE.—Seventy-five per cent. of the value
of this paper counts 100 marks—the maxi-
mum.

1. A person walks at the rate of a feet in
 b seconds, how many miles will he walk in
 c hours? How many minutes will it take
him to walk d yards?

1. (1) $\frac{15ac}{22b}$ (2) $\frac{bd}{20a}$.

2. If $\frac{a}{b} = \frac{c}{d}$, show (1) that $\frac{ma+nc}{ma-nc}$
 $= \frac{mb+nd}{mb-nd}$; (2) that $\frac{a^3}{b^3} = \frac{3a^2c-3ac^2+c^3}{3b^2d-3bd^2+d^3}$.

2. If $\frac{a}{b} = \frac{c}{d} \therefore \frac{ma}{mb} = \frac{nc}{nd}$,
 $\therefore \frac{ma}{nc} = \frac{mb}{nd}$, and $\therefore \frac{ma+nc}{ma-nc} = \frac{mb+nd}{mb-nd}$

(2) $\frac{a}{b} = \frac{c}{d} \therefore \frac{a^3}{b^3} = \frac{3a^2c}{3b^2d} = \frac{3ac^2}{3bd^2}$
 $= \frac{c^3}{d^3} = \frac{3a^2c-3ac^2+c^3}{3b^2d-3bd^2+d^3}$.

3. If x, y, z , are three consecutive integers
then $(x+y+z)^3 - 3(x^3+y^3+z^3) = 18xyz$.

3. $x = a-1, y = a, z = a+1$,
then $(x+y+z)^3 - 3(x^3+y^3+z^3)$
 $= 27a^3 - 3\{(a-1)^3 + a^3 + (a+1)^3\}$
 $= 18a^3 - 18a = 18a(a-1)$
 $= 18a(a-1)(a+1) = 18xyz$.

4. Find the numerical value of $2x^4 -$
 $510x^3 - 513x^2 + 256x - 1024$ when $x = 256$.

4. -1024. Ans.

5. Simplify $\frac{y+z}{(y^2-zx)(z^2-xy)}$
 $+ \frac{z+x}{(z^2-xy)(x^2-yz)} + \frac{x+y}{(x^2-yz)(y^2-zx)}$.

5. $\frac{y+z}{(y^2-zx)(z-xy)} + \text{etc., + etc.,} =$
 $\frac{(y+z)(x^2-yz) + (z+x)(y^2-zx) + (x+y)(z^2-xy)}{(x^2-yz)(y^2-zx)(z^2-xy)}$
 $= \frac{x^2(y+z) + y^2(z+x) + z^2(x+y)}{-(y^2(z+y+z) + \text{etc., + etc.,})}$
 $= \frac{(x^2-yz)(y^2-zx)(z^2-xy)}{x^2(y+z) + \text{etc., + etc.,} + 2xyz}$
 $- [y^2(y+z) + \text{etc., + etc.,} + 2xyz]$
 $= \frac{(x^2-yz)(\text{etc.,})(\text{etc.,})}{(x+y)(y+z)(z+x) - (x+y)(y+z)(z+x)} = 0$

6. If m and n are the values of x which
satisfy the equation $ax^2 + bx + c = 0$, show
that $a(m+n) + b = 0$, and that $amn = c$.

6. $ax^2 + bx + c = 0$, is satisfied by $x = m$ or n ,
 $\therefore x - m$ and $x - n$ are factors of $ax^2 + bx + c$,
and $\therefore ax^2 + bx + c = a(x-m)(x-n)$,
 $= a[x^2 - (m+n)x + mn]$
 $\therefore -a(m+n) = b$, or $a(m+n) + b = 0$,
and also $amn = c$.

7. Show that $a-c$ is a factor of $a^4(b-c)$
 $+ b^4(c-a) + c^4(a-b)$. State clearly why we
may infer that $c-b$ and $b-a$ are also factors
of it. Find the remaining factor.

7. The remaining factor is $a^2 + b^2 + c^2$
 $+ ab + bc + ca$. (See High School Algebra,
pp. 239-240)

8. Solve the equations:

(1) $5x + 3y = 7z - 2z$,
 $4x - z = 7y - 13$,
 $12x - 14x - 9y = 1$.

(2) $x^2 - 5x + 18 = 6\sqrt{x^2 - 5x + 10}$.

(3) $x^4 + x^2y^2 + y^4 = 12$,
 $x^2 - xy + y^2 = 3$.

8. (1) $x = \frac{1643}{371}, y = \frac{1219}{371}, z = \frac{2862}{371}$.

(2) $x^2 - 5x + 18 = 6\sqrt{x^2 - 5x + 10}$
 $(x^2 - 5x + 10) - 6\sqrt{x^2 - 5x + 10} + 8 = 0$,
 $(\sqrt{x^2 - 5x + 10} - 2)(\sqrt{x^2 - 5x + 10} - 4) = 0$,
and $\therefore \sqrt{x^2 - 5x + 10} = 2$, or 4, etc.

$$\begin{aligned} (3) \quad & x^2 + x^2y^2 + y^2 = 12 \quad \left. \begin{array}{l} (1) \\ (2) \end{array} \right\} \\ & x^2 - xy + y^2 = 3 \quad \left. \begin{array}{l} (1) \\ (2) \end{array} \right\} \\ (1) \quad & x^2 + xy + y^2 = 4 \quad (3) \\ (3) - (2) \quad & 2xy = 1 \\ (3) + (2) \quad & x^2 + y^2 = \frac{7}{2} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \text{ etc.} \end{aligned}$$

9. Two vessels, A and B , are stationed at P and Q respectively, P being 27 miles due north from Q . If A starts northward and B southward at the same time they will, at the end of 4 hours, be 148 miles apart; but if both vessels start northward at the same time B will overtake A at the end of 36 hours. Find each vessel's rate of sailing in miles per hour.

9. Let x = number miles per hour B , and y = number A ,

$$\begin{aligned} \therefore 4x + 4y = 148 - 27 = 121 \quad \left. \begin{array}{l} x = 15\frac{1}{2} \\ 36(x - y) = 27 \end{array} \right\} y = 14\frac{3}{4}. \end{aligned}$$

10. There are two numbers whose difference is 5, but when each is added to the square of the other the results differ by 45; find the numbers.

10. x = given number.
 y = other.

$$\begin{aligned} \therefore \quad & x - y = 5 \quad \left. \begin{array}{l} x^2 + y - y^2 - x = 45 \\ (x^2 - y^2) - (x - y) = 45 \\ (x^2 - y^2) - 5 = 45 \\ x^2 - y^2 = 50 \\ (x - y)(x + y) = 50 \end{array} \right\} \\ \therefore \quad & x + y = 10 \quad \left. \begin{array}{l} x - y = 5 \\ x = \frac{15}{2} \\ y = \frac{5}{2} \end{array} \right\} \text{Ans.} \end{aligned}$$

11. The product of two numbers is 143 and the sum of their squares is 290; find the numbers.

11. Let x = one number and y = other.

$$\begin{aligned} (1) \quad & xy = 143 \\ (2) \quad & x^2 + y^2 = 290 \\ & 2xy = 286 \\ \hline & x^2 + 2xy + y^2 = 576 \\ \therefore \quad & x + y = \pm 24 \\ x^2 - 2xy + y^2 = & 4 \\ \therefore \quad & x - y = \pm 2 \\ \therefore \quad & x + y = \pm 24 \end{aligned}$$

$$\left. \begin{array}{l} x - y = \pm 2 \\ x = \pm 13 \\ y = \pm 11 \end{array} \right\} \text{Ans.}$$

12. A person who has been in the habit of receiving a certain number of tons of coal for \$78 finds that the price has been raised 50c. a ton, in consequence of which he receives for his money one ton less than before. Find the former price per ton.

12. Let x = number dollars in former price per ton.

$$\therefore \frac{78}{x} = \text{no. tons for } \$78.$$

$$\text{and } \frac{78}{x + \frac{1}{2}} = \text{no. tons for } \$78 \text{ when price is raised,}$$

$$\therefore \text{ by the question } \frac{78}{x} = \frac{78}{x + \frac{1}{2}} + 1,$$

$$\text{which gives } x = 6.$$

$$\$6 \text{ former price per ton. Ans.}$$

Third Class Teachers.

1. Show that $(x^2 + 2xy + 3y^2)^2 + (y^2 - 2xy + 3x^2)^2$ is divisible by $4x^2 + 4y^2$.

1. $A^2 + B^2$ is always divisible by $A + B$.

$\therefore (x^2 + 2xy + 3y^2)^2 + (y^2 - 2xy + 3x^2)^2$ is divisible by $(x^2 + 2xy + 3y^2) + (y^2 - 2xy + 3x^2)$ i.e., by $4x^2 + 4y^2$.

2. Find the product of

$$\begin{aligned} & \frac{1}{x} + \frac{1}{y+z} \\ & \frac{1}{x} - \frac{1}{y+z} \text{ and } 1 + \frac{y^2 + z^2 - x^2}{2yz}. \end{aligned}$$

$$\begin{aligned} & \frac{1}{x} + \frac{1}{y+z} \\ & \frac{1}{x} - \frac{1}{y+z} \times 1 + \frac{y^2 + z^2 - x^2}{2yz} \\ & = \frac{y+z+x}{y+z-x} \times \frac{y^2 + 2yz + z^2 - x^2}{2yz} \\ & = \frac{x+y+z}{y+z-x} \times \frac{(y+z)^2 - x^2}{2yz} = \frac{(x+y+z)}{y+z-x} \\ & \quad \times \frac{(y+z-x)(y+z+x)}{2yz} = \frac{(x+y+z)^2}{2yz} \end{aligned}$$

3. Find the greatest common measure of $2x^2 - 5x^2y + 6xy^2 - 2y^3$ and $2x^2 + 3x^2y - 6xy^2 + 2y^3$.

3. Adding the two expressions gives $2x^2(2x - y)$, and evidently $2x - y$ is G. C. M.

4. Find the factors of $abc - ab - bc - ca + a + b + c - 1$; $b(b - 2a) - (c^2 - a^2)$; and $512x^{27} + y^{18}$.

4. $abc - ab - bc - ca + a + b + c - 1$
 (1) $= ab(c-1) - b(c-1) - a(c-1) + (c-1)$
 $= (c-1)(ab - b - a + 1) = (c-1)(a-1)(b-1)$
 (2) $b(b-2a) - (c^2 - a^2) = b^2 - 2ab - c^2 + a^2$
 $(a-b)^2 - c^2 = (a-b-c)(a+b+c)$
 (3) $512x^{17} + y^{18} = (8x^8)^2 + (y^9)^2$
 $= (8x^8 + y^9)(64x^{16} - 8x^8y^9 + y^{18})$
 $= (2x^8 + y^9)(4x^8 - 2x^8y^9 + y^9)$
 $(64x^{16} - 8x^8y^9 + y^{18}).$

5. If x and y are the G. C. M. and L. C. M. of a and b , show that $xy = ab$.

5. x is G. C. M. of a , etc., $\therefore a = px$, $b = qx$, where p and q have no common measure
 $\therefore pqx$ is L. C. M. of a and b .
 $\therefore pqx = y$. $\therefore pqx^2 = xy = ab$.

6. Simplify $\frac{x}{(x+y)(x+2y)}$
 $+ \frac{2y}{(x+y)(x+3y)} + \frac{x}{(x+2y)(x+3y)} - \frac{1}{x+3y}$

6. $\frac{1}{x+3y}$.

7. Solve the equations:
 (1) $p(x-q) = q(x-p)$.
 (2) $\frac{3}{5}(5x-6) + \frac{7}{8}(3-2x) = \frac{4}{5}\left(\frac{x}{2} - 3\frac{1}{2}\right)$.

7. (1) $x=0$. (2) $x = -\frac{73}{34}$.

8. Solve the equations:
 (1) $x+y=b$, $ax+by=b^2$.
 (2) $\frac{1}{x} + \frac{1}{y} = a$, $\frac{1}{x} - \frac{1}{y} = b$.

8. $x+y=b$ (1) $ax+by=b^2$ (2) $ax+ay=ab$ from (1) $\therefore ay-by=ab-b^2$ $y(a-b)=b(a-b)$ $\therefore y=b$ from (1).
 $\therefore x=0$

(2) $\frac{1}{x} + \frac{1}{y} = a$ $\frac{1}{x} - \frac{1}{y} = b$
 adding $\frac{2}{x} = a+b$ $\therefore x = \frac{2}{a+b}$

subtracting $\frac{2}{y} = a-b$ and $\therefore y = \frac{2}{a-b}$

9. A person goes from Hamilton to Toronto by boat at the rate of 13 miles an hour, remains an hour and a half in Toronto, and returns by rail at the rate of 26 miles an hour. He is gone altogether six hours; find the distance from Hamilton to Toronto.
 9. Let $x =$ No. miles from H. to T.

$\frac{x}{13} + 1\frac{1}{2} + \frac{x}{26} = 6$. $x = 39$.

10. A number consists of two digits; if these digits be reversed the number thus formed is less than the first number by twice the greater digit; also four times one digit exceeds three times the other by unity. Find the digits.

10. Let $x =$ tens digit and $y =$ units digit.
 $\therefore 10x+y = \text{No.}$, and by the question $x7y$.
 $(10x+y) - (10y+x) = 2x$ $x=9$
 $4y - 3x = 1$ $y=7$ No. 97.

11. A merchant goes into business with a certain capital which he finds has doubled itself by the end of the year. He then withdraws \$1,000 to pay expenses, and the remaining capital doubles itself during the second year; he then withdraws \$1,000 as before, and so on for four years. He finds that he begins in his fifth year with \$5,000, how much had he to commence with?

11. $x =$ No. dollars capital at first, $2x$ at end of first.
 $2x - 1000$ beginning second
 $4x - 3000$ " third
 $8x - 7000$ " fourth
 $16x - 15000$ " fifth
 $\therefore 16x - 15000 = 5000$. $x = \$1250$.

12. The sum of two numbers is one-fourth of their product, and if 6 be divided by the first number and 3 by the second the sum of the quotients is 1; find the numbers.

12. $x =$ one No.
 $y =$ other.
 (1) $x+y = \frac{1}{4}xy$ (2) $\frac{6}{x} + \frac{1}{y} = 1$
 (1) gives $\frac{1}{x} + \frac{1}{y} = \frac{1}{4}$ $\therefore \frac{3}{x} + \frac{3}{y} = \frac{3}{4}$
 $\frac{3}{x} = \frac{1}{4}$ $\therefore x = 12$ and $y = 6$.

ARITHMETIC.

Examiners—J. F. White, J. A. McLellan, LL.D.

Time—Two hours.

Solutions by A. Hay, Math. Master, Coll. Inst., Barrie.

NOTE.—Seventy-five per cent. of this paper counts a full paper.

1. (a) In reducing a vulgar fraction to a decimal, explain how you determine whether it will be a finite or a circulating decimal,

pure or mixed. What is the limit as to the number of repeating digits?

(b) Express as a decimal $\frac{1}{18}$ of $6.\dot{3}0769\dot{2}$ $\times 1.428571$.

1. (a) Text-book.

(b) 010989.

2. Bought goods at 4 months' credit, and after 7 months sold them for \$1500, $2\frac{1}{2}$ per cent. off for cash, and gained 15 per cent. Money being worth 6 per cent., what did the goods cost?

$$2. \text{ Cost} = \frac{2925}{2} \times \frac{200}{207} \times \frac{100}{115} \times \frac{102}{100} = \$1253.31.$$

3. An alloy of gold is mixed with an alloy of silver in the proportion of 11.4 to 2.6. The percentage of gross in the silver is 13.5 and in the gold 17.35; what is the percentage of gross in the mixture?

3. 16.635 per cent.

4. (a) At 10 per cent. for 4 years, what fraction of the simple interest is gained by charging compound instead of simple interest?

(b) The compound interest on \$500 for 3 years is \$95.508, find the rate.

$$4. (a) \frac{641}{4000}$$

$$(b) \text{ Amount of } \$1 \text{ in } 3 \text{ yrs.} = 1.191016,$$

$$\text{ " " } 1 \text{ yr.} = \sqrt[3]{1.191016} = 1.06$$

\therefore rate per cent. is 6.

5. What is meant by the *par* of exchange? The *course* of exchange?

When the course of exchange between London and New York is quoted at 2 per cent. premium, what will be obtained in New York money for a bill of £240 *12s. 8d.*?

5. Text-book.

$$(b) \frac{40}{9} \times \frac{102}{100} \times 240\frac{8}{8} = \$1098.87.$$

6. A 60-day note was discounted at the bank at 1 per cent. a month, and \$4.80 more than true discount was charged. Allowing days of grace, find the face of the note.

$$6. \text{ Bank disc. on } \$1 \text{ for } 63 \text{ days is } \frac{756}{36500}$$

$$\text{True " " " " } \frac{756}{37256}$$

$$\text{true discount is } \frac{4.80}{1} \times \frac{36500}{756}, \$$$

$$\text{face of note} = \frac{4.80}{1} \times \frac{36500}{756} \times \frac{37256}{756} \$ = \$11420.54.$$

7. Bought 16 cows and 120 sheep for \$465, the animals of the same kind costing a uniform price. Sold for \$496.50, gaining $7\frac{1}{2}$ per cent. on the cows, and 6 per cent. on the sheep. Find the cost of each a head.

7. 100 per cent. price of cows + 100 per cent. price of sheep = \$465, 100 per cent. price of cows + 80 per cent. price of sheep = $31.50 \times \frac{4}{9}$, \therefore 20 per cent. price of sheep = \$45, whence cows cost \$15 and sheep $\$1\frac{1}{2}$ each.

8. Bought a 6 per cent. mortgage for \$2500 at 5 per cent. discount, with two years to run. What rate of interest is obtained if the mortgage is satisfied at maturity?

8. Let R = amount of \$1 in 1 year,

$$\text{then } \frac{150}{R} + \frac{2650}{R^2} = 2375,$$

$$\text{whence } R = 1.088 +$$

\therefore rate is 8.8 + per cent.

9. A man invested \$5500, a part in the 4 per cent. at 83 $\frac{3}{4}$, and the rest in the 5 per cent. at 102 $\frac{1}{2}$, brokerage $\frac{1}{2}$ per cent. in each case. His total income being \$266 $\frac{3}{4}$. find the sum invested in each stock.

9. All invested in 1st gives \$261 $\frac{1}{4}$; decrease \$4 $\frac{1}{4}$;

$$\$1 \text{ gives } \$ \frac{1}{21 \times 41} \text{ more in 2nd,}$$

$$\therefore \text{ amt. invested in 2nd} = 4\frac{16}{21} \times \frac{21 \times 41}{1} = 4100, \text{ amt. in 1st } \$1400.$$

10. A garden whose width is 9 rods and length 15 rods is to have a wall $3\frac{3}{4}$ ft. thick around it outside. What will be the cost of digging a trench for it, $2\frac{1}{2}$ ft. deep, at 1 $\frac{1}{2}$ ¢ per cubic ft.?

$$10. \frac{8}{5} \times \frac{807}{1} \times \frac{15}{4} \times \frac{5}{2} = \$121.05.$$

11. A circular race course 22 yds. wide covers 12 acres, find the diameter of the inner circle. ($\pi = 3\frac{1}{7}$).

11. Let R and r be the radii of outer and inner circles respectively,

then $\frac{22}{7}(R+r)(R-r) = \frac{12}{1} \times \frac{4}{1} \times \frac{40}{1} \times \frac{121}{4}$ yds
 $R-r=22$

$\therefore R+r=840$ yds., and $R=431$ and $D=862$.

12. A conical tent whose slant height is 12 ft. requires 132 sq. ft. of canvas to make it; how much ground does the floor of the tent cover?

12. $(12 \times \text{circum. of base}) \div 2 = 132$ ft.,
 $\therefore C=22$ and diameter is 2 ft., \therefore ground floor covers $\frac{7}{2} \times \frac{7}{2} \times \frac{22}{7} = 3\frac{1}{2}$ ft.

Third Class Teachers.

NOTE.—Seventy-five per cent. will constitute a full paper, but credit will be given for all answers.

1. Prove the rule for the multiplication of two fractions.

Simplify $\frac{(7\frac{1}{2} - 3\frac{1}{2}) + [4\frac{1}{2} - (2\frac{1}{2} - 1\frac{1}{2})]}{(7\frac{1}{2} + 3\frac{1}{2}) \div (1\frac{1}{2} - 9\frac{1}{2} \times \frac{1}{7})}$.

1. $\frac{1605}{3311}$.

2. A, B, C, rent a pasture for \$92 A puts in 6 horses for 8 weeks B 12 oxen for 10 weeks, C 50 cows for 12 weeks. If 5 cows are reckoned as 3 oxen, and 4 oxen as 3 horses, what shall each pay?

2. 20 cows = 12 oxen = 9 horses,

\therefore their shares are as $8 \times 6 \times \frac{20}{9}$:

$10 \times 12 \times \frac{20}{12} : 12 \times 50,$

\therefore A's share is \$10 $\frac{1}{3}$, B's \$20 $\frac{1}{3}$, C's \$60 $\frac{1}{3}$.

3. A does a work in 10 days, B in 9 days, C in 12 days; all begin together, but A leaves in 3 $\frac{1}{2}$ days before the completion, B in 2 $\frac{1}{2}$ days before the completion. In what time was the work done?

3. C does $\frac{17}{60}$ ths work after A quits,

B " $\frac{1}{9} \times \frac{4}{5} = \frac{4}{45}$ " "

\therefore all working together do $1 - (\frac{17}{60} + \frac{4}{45})$

$= \frac{113}{180}$ which takes them $\frac{113}{180}$

$\div (\frac{1}{10} + \frac{1}{9} + \frac{1}{12}) = 2\frac{2}{3}$ days, whole time is $3\frac{1}{3} + 2\frac{2}{3} = 5\frac{1}{3}$ days.

4. Prove the rule for division of decimals. Divide to 6 decimal places, '0078539 by '9921461.

4. '007916.

5. On March 23rd a bank gives me \$845 for a note of \$860. When is the note due, interest 8 per cent.?

5. Discount for a year is \$68.80,

\therefore time is $\frac{365}{1} \times \frac{1500}{6880} = 80$ days, and note is due June 11.

6. Find the cost, in sterling, of 184 tons 17 cwt. 3 qrs. 14 lbs. of copper, invoiced to a Toronto importer at £87 17s. 11d. per ton? (qu. = 28 lbs.)

6. £16243 7s. 9 $\frac{1}{2}$ d.

7. I bought certain 4 per cent. stock at 75 and after a number of years sold out at 95, and found that I had made 7 $\frac{1}{2}$ per cent. per annum simple interest. How long did I hold the stock?

7. 4 per cent. stock at 75 yields 5 $\frac{1}{2}$ per cent. on investment, \therefore increase in price of stock yields $7\frac{1}{2} - 5\frac{1}{2} = 2\frac{1}{2}$ per cent.; increase is $20 \times \frac{4}{3}$; time stock was held = $\frac{80}{3} \times \frac{6}{13} = 12\frac{4}{13}$ years.

8. There is a mixture of vinegar and water in the proportion of 93 parts vinegar to 7 parts water; how much water must be added so that in 25 parts of the mixture there may be 2 parts water?

8. 93 per cent. of 1st mixture = 92 per cent. of 2nd mixture, \therefore water added = $\frac{1}{3}$ of 1st mixture.

9. I invested \$10,000, but sold out at 20 per cent discount. How much must I borrow at 4 per cent. so that by investing all at 8 per cent. I may just retrieve my loss?

9. Data not sufficient.

10. A square field containing 27 $\frac{1}{2}$ acres has a diagonal path across it. What is the length of the path in yards?

10. Square of diagonal

$= \frac{55}{2} \times \frac{4}{1} \times \frac{40}{1} \times \frac{121}{4} \times \frac{2}{1}$ yds.,

\therefore length of path = $\sqrt{55 \times 40 \times 121}$

= 515.9 yds.

11. When the temperature of a cube of zinc is raised from 32°F . to 212°F . each dimension is thereby increased .3 per cent. Find the percentage of increase in the bulk.

11. Volume is multiplied by $(1.03)^3 = 1.092727$, \therefore increase in bulk is 9.2727 per cent.

12. Water is flowing at the rate of 10 miles per hour through a pipe 14 ins. in diameter, into a rectangular reservoir 187 yds. by 96 yds. In what time will the surface be raised 1 inch?

12. No. of cubic feet of water in 1 inch depth of the reservoir = $\frac{187 \times 96 \times 9}{12}$; No.

of feet flowing in per hour $\frac{(7)^2}{1} \times \frac{22}{7} \times \frac{10}{1} \times \frac{5280}{1}$; time required to fill reservoir 1

in. = $\frac{187 \times 8 \times 9}{1} \times \frac{1}{7} \times \frac{1}{22} \times \frac{1}{5280} \times \frac{60}{1} \times \frac{60}{1} = 57\frac{2}{3}$ seconds.

EDUCATION DEPARTMENT.
ONTARIO.

ANNUAL EXAMINATIONS, 1887.

Second Class Teachers.

ENGLISH LITERATURE—POETRY.

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

Time—Two hours.

NOTE.—Seventy-five per cent. of the value of this paper counts 125 marks—the maximum.

I.

But see the fading many-colour'd woods,

And woo lone Quiet in her silent walks.

1. Designate the above extract by an appropriate title.

2. Show the aptness of the following expressions :

“Shade deepening over shade,” l. 2; “wan declining,” l. 4; “low-whispering,” l. 6; “dewy-skirted,” l. 12; “steal,” l. 16; “this little scene of things,” l. 17; “throbbing,” l. 19; and “woo,” l. 20.

3. Why has the poet written “leaf-strown,” l. 6; “charm,” l. 15; “soar,” l. 17; and

“tread,” l. 18; and not “leaf-spread”; “please;” “fly;” and “tramp.”

4. State in simple language the full meaning of the italicized parts.

II.

The fall of Kings
The rage of nations, and the crush of states.

When angels dwelt, and God himself with man.

1. Designate the above extract by an appropriate title.

2. Develop the force of the figurative language in “not a”—“in vain,” ll. 13 and 14; and “With swift wing”—“burn,” ll. 33-37.

3. Show the aptness of the reference to Tempè and Hæmus, ll. 16 and 17, and of the following expressions: “escaped,” l. 3; “revolving,” l. 6; “sucks,” l. 11; “tempts the sickled swain,” l. 22; “prattling,” l. 41; and “fret,” l. 47.

4. State, without using figurative language, the full meaning of the italicized parts.

5. Show that the law of Explicit Reference has been observed in the composition of the extract.

6. Show, as well as possible, wherein consists the beauty of the extract in the sentiment and in language.

III.

1. Illustrate any passage in the preceding extracts by the finest quotation you can make from another part of Thomson or from other poets.

2. What characteristics of Thomson are exemplified in the preceding extracts? Refer to the most marked example of each.

3. State concisely why “The Seasons” is important in the history of the development of English literature, illustrating each point in your answer by reference to “Autumn” and “Winter.”

ENGLISH LITERATURE—PROSE.

Time—One hour and a half.

NOTE.—Seventy-five per cent. of the value of this paper counts 75 marks—the maximum.

I.

Great actions, whether military or naval,

have generally given celebrity to the scenes . . . obstinately gazing toward them till the last speck had disappeared.

1. At what stage of the narrative is this paragraph introduced? What purposes is the digression intended to serve?

2. Show, under the following heads, how the paragraph laws are observed in the construction of the paragraph :

(a) The relation of the first sentence to what follows. Note also the effect of this sentence upon the style.

(b) The subject of the paragraph and the sentence which contains it.

(c) The principal of parallel constructions.

(d) The principle of proportion.

3. In the third sentence (ll. 7-10), the author speaks of "the political importance of the Sound," and of the "grand and interesting objects both of art and nature" of which it is full. Show that we have here the three main subdivisions of the paragraph-subject, and state at which sentence each subdivision begins. State also the reason for introducing them in the order in the text.

4. Criticise the literary form of ll. 7-10, 22-24, and 35-38; suggesting improvements where you consider them desirable.

5. Explain what is meant by "the drama," l. 6; and why the author wrote "by his liberality as well as by his labours," ll. 50-51; and not "by his liberality as well as labours."

6. What qualities of style are here exemplified? Refer to examples.

II.

There was reason to suppose, from the appearances . . . verifying in this sense the language of the old mythologist:

Spirits are they, through mighty Jove's decree,

Noble, of earth, guardians of mortal men.

1. What is the subject of this paragraph?

2. What is the allusion in "the chariot and the horses of fire?" l. 9. Show how far the event alluded to has coloured the thoughts expressed, and explain the effect of the allusion upon the style.

3. Justify concisely the four statements in the italicized parts.

4. Characterize the style of the passage, and show wherein it differs from that of ordinary prose.

ENGLISH COMPOSITION.

Examiners—Cornelius Donovan, M.A.,
M. J. Kelly, M.D., LL.B.

Time—Two hours.

NOTE.—Seventy-five per cent. to constitute a full paper.

1. Write a paragraph developing the thought: "Beware of the man of one book."

2. Re-write the following extract in your own words :

When the bright Virgin gives the beauteous days,

Unbounded tossing in a flood of corn.

3. Form sentences that will clearly illustrate the difference in meaning between:—*calamity and misery, vain and proud, sagacity and shrewdness.*

4. Improve the following :

(a) He left the room very slowly, repeating his determination not to obey.

(b) There was a parliamentary surrender at discretion to stop further inquiry and save the plotters from condign and most deserved punishment.

(c) No one ever wounded himself more madly more passionately or so carelessly as he.

(d) By such controversies fairly conducted truth is often eliminated.

(e) The riches of the temple gradually disappeared but by whom or when is not known.

5. Re-write the following paragraph, substituting equivalents for the italicized expressions :

The country that now forms the State of Pennsylvania, *assigned* to Penn by the *royal charter*, was still full of its *primitive* inhabitants; and his *principles* did not *permit* him to regard the king's gift as a warrant to *dispossess* the actual *proprietors*.

6. Write a composition on one of the following subjects, using as paragraph-subjects the subordinate subjects appended :

Nelson's pursuit of the French fleet.—Ob-

ject of the pursuit; difficulties in the Mediterranean; the chase across the Atlantic; return to Portsmouth.

Battle of Trafalgar.—Plan of attack; plan of defence; the combat; Nelson's wound and death; fruits of the victory.

HISTORY.

Examiners—M. J. Kelly, M.D., LL.B.; J. J. Tilley.

Time—Two Hours.

NOTE.—75 per cent. of the value of this paper counts 100 marks—the maximum.

1. Under what circumstances did William III. become King of England. Relate fully. Show how the manner of his accession differed from that of any English sovereign preceding him.

2. "According to the pure idea of constitutional royalty, the prince reigns and does not govern; and constitutional royalty, as it now exists in England, comes nearer than in any other country to the pure idea."—*Macaulay.*

Show in how far the course of William III. as sovereign conformed to the doctrine here laid down.

3. Discuss William's foreign policy and state the obstacles it encountered at home and abroad, from friends and foes.

4. Give the date and provisions, (1) of the Treaty of Ryswick (2) of the Act of Settlement.

5. Relate the causes, progress and results of the War of the Spanish Succession.

6. Discuss the state of parties under the administrations of the elder and the younger Pitt, and the questions respecting which the parties were at issue.

7. Sketch briefly the history of the Union of the English and Irish Parliaments.

8. Write a short account of the state of English literature during the last half of George III.'s reign; discover the sources of its life, vigour and originality.

GEOGRAPHY.

Examiners—J. J. Tilley; Jas. F. White.

Time—One Hour and a Half.

NOTE.—75 per cent. of this paper counts 100 marks—the maximum.

1. (a) When the sun is vertical 10° north

of the equator, to what points in the frigid zones does its light extend?

(b) Over what portion of the earth's surface does the sun rise and set during each 24 hours throughout the year?

(c) What is the difference in time between two places, one being in 35° East Longitude and the other in 35° West Longitude?

2. Give the form of government, religion and chief occupations of the people in Belgium, Italy, Sweden, Spain and Greece.

3. Name the principal British Colonies; give their position, and write short notes on the commerce carried on between each of them and Great Britain.

4. (a) What are the principal industries (with the chief centres of each) and the staple agricultural and mineral productions of each of the provinces of Canada?

(b) Show what facilities for trade exist among the provinces.

5. Write a short description of the physical features of the United States, and classify these States on the basis of their productions as determined by physical conditions.

6. Examine the natural commercial advantages and disadvantages of Russia, Austria, France, Holland and Great Britain.

7. (a) Where are the following and with what events are they associated in History: Khartoum, Granada, Utrecht, Solferino, Plassey, Lützen?

(b) Where and what are the following:—Matterhorn, Morea, Piræus, Cyclades, Candia, Cenis, Gobi, Batavia, Thanet, Khyber Pass, Deccan, Transvaal?

CHEMISTRY.

Examiners—John Seath, B.A.; J. A. McLellan, LL.D.

Time—Two Hours.

NOTE.—Seventy-five per cent. of the value of this paper counts 100 marks—the maximum. Candidates are required to arrange, as far as practicable, the different parts of their answers to Nos 1, 2 and 7, under the following heads: (1) Experiment, (2) Observation and (3) Inference.

1. The gas contained in a transparent receiver is known to consist of N and O. How would you determine whether it is a

chemical compound or a mechanical mixture?

2. A glass is given you, containing muddy water impregnated with ammonia.

(a) How would you render the water pure?

(b) How would you prove that you had done so?

3. Some chlorate of potash and black oxide of manganese are heated in a test tube till the evolution of gas ceases.

(a) How would you find the weight of the chloride?

(b) If the chloride weighs 10 grammes, what was the weight of the chlorate?

(c) How would you prove that the chloride is a different substance from the chlorate?

4. Find the quantities of lime and sal-ammoniac necessary to prepare 11.2 litres of NH_3 .

5. Two receivers of the same size and shape, containing respectively Cl and H, are placed, for some time, mouth to mouth in diffused sunlight, the gases being separated by a thin plate of plaster of Paris.

(a) Describe minutely and explain what takes place in each receiver.

(b) What conclusions would you base on this experiment?

6. Into a receiver containing perfectly dry chlorine, is introduced some litmus paper.

Describe and explain what takes place (1) when the litmus paper is perfectly dry, and (2) when it has been moistened with water.

7. You are given an opaque receiver covered with a ground glass plate and known to contain N_2O , N_2O_2 , HI, or Cl.

How would you determine most simply which it contains?

8. 3 litres of H, 2 of N, and 4 of O are measured at 0°C and 760_{mm} mercurial pressure, and an electric spark is passed through the mixture.

What is the volume of the gases after combustion, the measurement being made at 0°C and 760_{mm} mercurial pressure?

9. 100 grammes of nitre are distilled with sulphuric acid.

What weight of ammonia will be needed to neutralize the distillate?

10. What volumes of the constituent gases would be obtained by decomposing three volumes of each of the following gases:—nitric oxide, ammonia, water-vapor, and hydrochloric acid?

ENGLISH GRAMMAR.

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

Time—Two hours.

NOTE.—Seventy-five per cent. of the value of this paper counts 150—the maximum.

I. State your idea of an inflection; point out, and give the force of, each inflection in the following sentence:

If my surmise be correct, I shall at once take measures to have the property secured in a safer place.

2. Analyze the following words, giving the force of each prefix and suffix:—spider, worship, worldling, whitish, forget, balloon, nunnery, christian, bemoan, enlighten, songster.

3. Explain and illustrate the following terms as applied to verbs: infinitive, auxiliary, finite, factitive.

4. I.

In town I hear, scarce wakened yet,
My neighbour's clock behind the wall
Record the day's increasing debt,
And Cuckoo! Cuckoo I faintly call.

II.

Our senses run in deepening grooves,
Thrown out of which they lose their tact,
And consciousness with effort moves
From habit past or present fact.

III.

So in the country waked to-day,
I hear, *unwilling* of the change,
A cuckoo's throb from far away
Begin to strike nor think it strange.

IV.

The sound creates its wonted frame;
My bed at home, the songster hid
Behind the wainscotting—all came
As long association bid.

V.

I count to learn how late it is,
Until, arrived at thirty-four,
I question, "What strange world is this
Whose lavish hours would make me poor?"

VI.

Cuckoo! cuckoo! I still on it went
 With hints of mockery in its tone;
 How could such hoards of time be spent
 By one poor mortal's wit *alone*?

VII.

I have it! Grant, *ye* kindly Powers,
 I from this spot may never stir,
 If *only* these uncounted hours
 May pass, and seem too short, with her!

VIII.

But who she is, her form and face,
These to the world of dream belong;
 She moves through fancy's visioned space,
 Unbodied like the cuckoo's song.
 —James Russell Lowell, in the *Atlantic*.

(a) Classify and give the relation of the subordinate clauses in stanzas II., V., VII., VIII.

(b) Classify the italicized words as *notional* or *relational*, and give as exactly as you can the syntax of each of them.

5. Mention some of the characteristics of our language that tend to make it peculiarly pliable, and to adapt it for becoming the medium of universal speech.

6. In the following sentences justify the form of the words in italics:

- (a) He shot twenty *brace* of quail.
- (b) The rose smells *sweet*.
- (c) Much blood and treasure *was* wasted.
- (d) He *starts* for Montreal to-morrow.
- (e) When he was young he *would* often speak of these things.

7. Explain the syntax of the italicized words in the following:

- (a) *A mile further*, and we shall be at home.
- (b) Beef is *fifteen cents* a pound.
- (c) There is no one *but* believes him guilty.
- (d) *To tell the truth*, I did not see him.
- (e) That news of *his* has caused alarm
- (f) *Speaking in round numbers*, there may have been a hundred.

8. Re-write the following sentences, making such changes as you think will improve them. Give a reason for each change:

(a) If my readers will turn their thoughts back on their old friends they would find it difficult to call a single man to remembrance who appeared to know that life was short until he was about to lose it.

(b) The Court of Chancery frequently mitigates and breaks the teeth of the common law.

(c) If that be all there is no need of paying for it since I am resolved to have that pleasure whether I am there or no.

(d) I do not suppose we Britons want sense more than the rest of our neighbours.

(e) King James I. was seized with a tertian ague which when his courtiers assured him from the proverb that it was health for a king, he replied that the proverb was meant for a young king.

EUCLID.

Examiners—J. A. McLellan, LL.D.,
 W. H. Ballard, M.A.

Time—Two hours.

NOTE.—Seventy-five per cent. of the value of this paper counts 100—the maximum.

1. What is the converse of a given position? What proposition is the converse of Prop. XXVI., Part I.?

How many conditions are necessary (1) to fix the position of a point in a plane; (2) to describe a circle?

2. The opposite sides and the opposite angles of a parallelogram are equal to one another, and either diagonal bisects the parallelogram.

Construct a triangle, given the middle points of its three sides.

3. Triangles on the same base and between the same parallels are equal.

ABC is any triangle (vertex A), D a point in AB; find a point E in BC produced such that the triangle DBE = triangle ABC.

4. What are the Propositions in Bk. I. that prove the identical equality of two triangles? If three parts of one triangle are each to each equal to three parts of another, examine whether the two triangles are necessarily equal.

5. What is the subject-matter of Book II.? What is a rectangle? A gnomon? When is a line said to be divided *externally*? *Internally*?

6. If a line be divided into any two parts the square on the whole line is equal to the

sum of the squares on the parts, together with twice their rectangle.

If from the vertical angle of a right-angled triangle a perpendicular be let fall on the hypotenuse, its square is equal to the rectangle contained by the segments of the hypotenuse.

7. If a straight line be divided equally and also unequally, the sum of the squares on the two unequal parts is twice the sum of the squares on half the lines and on the line between the points of section.

Give the corresponding algebraic formula. Include the enunciations of Props. IX. and X. in a single enunciation.

8. Divide a given straight line into two parts so that the rectangle contained by the whole and one part may be equal to the square on the other part.

If AB be thus divided in the point C, prove $AB^2 + BC^2 = 3AC^2$.

9. Using Props. XII., XIII., Bk. II., prove that the sum of the squares on two sides of any triangle is equal to twice the square on half the third side together with twice the square on the line joining the middle point of the third side with the opposite angle.

10. Equal chords in a circle are equidistant from the centre. Conversely: chords in a circle which are equidistant from the centre are equal.

Two parallel chords in a circle, whose diameter is 10 inches, are 8 inches and 6 inches; find the distance between them.

11. From a given point without a given circle to draw a tangent to the circle.

If a quadrilateral be circumscribed round a circle, the sum of one pair of opposite sides is equal to the sum of the other pair.

NOTES ON LITERATURE FOR ADMISSION TO HIGH SCHOOLS.

"OFT IN THE STILLY NIGHT."

Moore, in this poem, gives expression to the solemn thoughts that occur to him between going to bed and falling asleep. The most manifest beauties are (1) its highly musical character, including its perfection of

rhyme and rhythm; (2) the impressiveness of the minor strain that pervades it; (3) the complete absence of harshness of thought and expression while dealing with a tragic subject; (4) the dream-like scene that it presents to the imagination.

Oft—often.

Stilly—poetic form for *still*.

Slumber—personified, falling asleep is presented under the figure of being bound by slumber with a chain.

Fond—dear, affectionate.

Memory—personified; memory comes to him carrying a light, which reveals to him the events mentioned in lines 5 to 10.

Smiles—joys.

Tears—sorrows.

Eyes . . . shone—the shining of the eyes expresses love and joy.

Dimmed . . . gone—the eyes have lost their lustre, some through age, others by death.

So linked together—by friendship's chain.

Like leaves . . . weather—the death of his friends compared to the falling of leaves in the storms of winter.

I feel . . . departed—the cause of this feeling is stated in lines 1 to 4 of 2nd stanza.

Banquet-hall—a grand dining-room.

Deserted—forsaken; adj. qualifying hall.

Lights are fled—lamps are put out.

Garlands—flowers with which the table was decorated.

Lights and garlands may refer to guests distinguished for *wit* and *beauty*.

He—antecedent *one* in line 5, 2nd stanza.

RESULT OF THE MATRICULATION EXAMINATION AT TORONTO UNIVERSITY.

The candidates numbered about 240, of whom 172 passed. About 125 wrote in Toronto, the rest at the local examinations. In 1885, 202 candidates wrote, and 161 passed; in 1886, 223 wrote, and 170 passed.

The analysis of the standing of the leading colleges and institutes is as follows: Toronto Collegiate Institute sent up 18, Hamilton 5, London 10, Upper Canada College 11, Woodstock 4, Brantford 6, St. Catharines 8, St.

Thomas 2, Stratford 2, Galt 3, Chatham 5, Strathroy 3, Owen Sound 2. The scholarships were captured by the Toronto, Strathroy, Hamilton, Caledonia and Owen Sound Institutes, U. C. College and Trinity College School, Port Hope.

ARTS, COMPLETE PASS MATRICULATION LIST

D. J. Armour, J. Armstrong, Miss Josie Abel, Miss E. Ackerman, Arthur Allin, Miss Alice Ashton, W. A. Bell, R. W. Black, S. V. Blake, W. J. Boland, F. M. Bowman, J. S. Brown, J. C. Breckenridge, A. W. Briggs, Miss Effie Bunnell, G. B. Burson, F. McK. Burwash, Miss Emma Buchanan, W. E. Buckingham, J. Burnett, F. J. Burrows, Miss Bessie Carson, J. H. Clary, G. D. Corrigan, R. D. Coutts, Miss Minnie Craig, J. H. Cornyn, Morley Curry, Neil Campbell, Miss Nettie Carter, A. W. Cole, R. J. Crawford, W. J. Curtin, F. J. Davidson, Wm. Dillane, T. D. Dockray, W. J. Doherty, D. Donald, Wm. J. Dick, Miss Mina M. Elliott, Wm. Eadie, O. P. Edgar, A. W. Ewars, R. S. Fralick, L. W. Fallis, A. Faskin, G. Fowler, D. A. Fowle, F. D. Fry, W. M. Govenlock, G. T. Graham, J. M. Godfrey, L. A. Green, T. H. Greenwood, Wm. Hardie, W. J. Harvey, T. Hawthorne, T. H. Henry, George Hammill, G. A. Harcourt, Miss Mary Harden, Miss Mabel Henderson, R. Henderson, E. A. Henry, J. F. Howard, G. F. Hull, W. G. Hunt, A. G. Hunter, Miss Florence Idington, J. E. Jeffery, B. M. Jones, Miss Laura Jones, J. W. Johnston, J. Kerr, S. L. Killoran, Miss Florence Keys, A. T. Kirkpatrick, G. J. Laing, G. A. Lane, R. R. Lawrie, S. B. Leacock, F. K. Lillie, J. Landsborough, W. B. Lane, J. W. Leaver, W. S. Lipton, J. C. MacMurphy, Miss Labella McDougall, D. W. McGee, G. A. McIntosh, Walter S. McLay, J. A. McLean, Miss V. M. McLean, Bert Merrill, A. E. Mickle, H. de S. Miller, W. J. Moran, Thos. More, Albert Maughan, L. G. McCarthy, M. P. McDonagh, Geo. McKenzie, A. J. McKinnon, A. S. McLean, Miss Jean McLean, J. McNicol, Alex. McMillan, Jason Merritt, A. Moore, T. K. Morley, Alex. Mowat, J. A. Newson, E. Norman, Lambert Norman, A. P. Northwood, W. W. Nugent,

Lewis Nichols, J. A. Oliver, J. C. Payne, N. J. Perry, Miss Frances Phelps, J. L. Pickard, H. C. Pope, R. Patterson, T. E. Perrin, M. W. Peters, Samuel Piper, Miss E. C. Platt, R. S. Robertson, J. C. Rogers, Donald Ross, Miss Jessie Rothwell, S. J. Rothwell, Miss Bella Rutherford, A. F. Rykert, R. S. Reid, G. W. Robinson, H. E. Rose, Miss J. M. Rose, Miss Nettie Ross, W. J. Rusk, John Sale, J. W. Scane, Geo. Shaw, E. T. Slemmon, Miss C. Smith, Miss S. M. Smith, J. F. Snell, O. J. Stevenson, Melville Stewart, Spencer Stone, C. A. Stuart, J. M. Scott, W. F. Scott, Herbert Sneath, J. H. Smith, N. J. Sproul, Miss Annie Stanley, Robert Stevens, Miss E. A. Teskey, Miss C. L. Thacker, H. F. Thomas, A. St. L. Trigge, J. W. Treleaven, D. Walker, H. M. Wood, John Watson, Walter Watts, A. A. Williams, U. M. Wilson, Miss F. M. Wissler, G. A. M. Young.

The following candidates have matriculated, provided they obtain at the departmental examinations a second class certificate with Latin option: W. L. Forbes, D. H. Harris, R. G. Holland, W. R. Harnden, P. McArthur, Miss H. Mills, J. B. Peters, D. Campbell.

SCHOLARSHIPS.

The Mary Mulock Classical Scholarship: A. J. Hunter (double), Toronto C. I., and C. A. Stuart (quadruple), Strathroy C. I., equal.

Mathematics: J. F. Howard (double), Hamilton C. I. and Caledonia H. S.

Modern Languages: C. A. Stuart, Strathroy C. I.

Prince of Wales Scholarship: C. A. Stuart, Strathroy C. I.

General Proficiency: C. A. Stuart, Strathroy C. I. 1, S. B. Leacock, U. C. Coll.; A. J. Hunter, Toronto C. I.; 2, A. M. Stewart, Owen Sound C. I.; 3, B. M. Jones, U. C. Coll.; J. F. Howard, Hamilton C. I. and Caledonia H. S.; 4, A. T. Kirkpatrick, Trinity Coll. School, Port Hope.

ARTS, RELATIVE STANDING HONOUR LIST.

Classics: Class I.—1, A. J. Hunter, C. A. Stuart, equal; 3, S. B. Leacock; 4, F. J.

Davidson; 5, B. M. Jones; 6, C. J. Payne; 7, A. T. Kirkpatrick; 8, J. C. Breckinridge, T. D. Dockray, W. J. Doherty, J. Sale, equal. Class II.—1, R. D. Coutts; 2, J. I. Laing; 3, A. E. Mickle; 4, H. C. Pope; 5, A. M. Stewart, S. Stone, Miss E. A. Teskey, H. F. Thomas, equal; 9, G. B. Burson; 10, Miss J. M. Rose; 11, W. J. Rusk; 12, J. Armstrong, J. F. Howard, equal; 14, G. McK. Campbell; 15, Duncan Campbell, W. W. Nugent, equal.

Latin: Class II.—1, F. D. Fry; 2, A. P. Northwood; 3, W. S. W. McLay.

Mathematics: Class I.—1, J. F. Howard; 2, R. Henderson; 3, Miss E. Bunnell; 4, T. More; 5, W. M. Eadie; 6, G. F. Hull; 7, G. A. Lane; 8, R. R. Lawrie. Class II.—1, G. McK. Campbell; 2, A. M. Stewart; 3, G. Shaw; 4, R. S. Fralick; 5, H. de S. Miller; 6, A. T. Kirkpatrick; 7, C. A. Stuart; 8, F. McN. Burwash, M. Currie, equal; 10, W. J. Rusk; 11, D. Walker; 12, B. W. Merrill; 13, O. J. Stevenson; 14, A. J. Hunter; 15, G. Hammill; 16, S. B. Leacock; 17, W. M. Govenlock; 18, G. W. Robinson; 19, J. W. Scane; 20, B. M. Jones; 21, J. C. Breckenridge.

English: Class I.—1, C. A. Stuart; 2, A. M. Stewart; 3, S. B. Leacock; 4, Miss L. L. Jones; 5, A. St. L. Trigge; 6, W. M. Eadie; 7, O. J. Stevenson; 8, F. J. Davidson; 9, J. C. Payne; 10, O. P. Edgar; 11, G. J. Laing; 12, R. L. Reid, Miss C. Smith, equal; 14, Miss E. Bunnell, J. H. Cornyn, equal. Class II.—1, Miss M. E. Henderson, G. A. Lane, G. Shaw, equal; 4, F. McM. Burwash, B. M. Jones, H. F. Thomas, equal; 7, Miss M. Craig, F. D. Fry, D. Walker, equal; 10, D. J. Armour, T. D. Dockray, A. P. Northwood, equal; 13, Miss J. J. McDougall, Miss J. M. Rose, equal; 15, Miss B. Carson, A. E. Mickle, equal; 17, M. Carrie, A. J. Hunter, E. T. Slemon, equal; 20, W. J. Doherty, E. Norman, equal; 22, J. C. Breckenridge, W. S. W. McLay, S. Stone, A. M. Wood, equal; 26, F. R. Lillie, D. A. McIntosh, G. W. Robinson, Miss S. M. Smith, Miss F. V. Keys, equal; 31, Miss E. A. Teskey, G. McK. Campbell, B. W. Merrill, T. More,

equal; 35, R. D. Coutts; 36, J. A. McLean; 37, H. C. Pope, Miss B. M. Lawson, equal.

History and Geography: Class I.—1, C. A. Stuart; 2, S. B. Leacock, F. McN. Burwash, equal; 4, F. D. Fry; 5, F. J. Davidson; 6, O. J. Stevenson. Class II.—1, G. A. Lane; 2, T. D. Dockray; 3, J. H. Cornyn; 4, A. J. Hunter; 5, W. M. Eadie; 6, Miss L. L. Jones, T. More, equal; 8, O. J. Stevenson; 9, D. J. Armour; 10, J. C. MacMurphy, J. A. McLean, equal; 12, Miss E. Bunnell, R. Henderson, F. R. Lillie, equal; 15, A. St. L. Trigge; 16, G. McK. Campbell, A. E. Mickle, A. P. Northwood, A. M. Stewart, equal; 20, Miss C. Smith; 21, G. J. Laing, R. L. Reid, equal; 23, M. Currie, B. W. Merrill, equal.

French: Class I.—1, Miss F. V. Keys; 2, S. B. Leacock; 3, F. J. Davidson, C. A. Stuart, equal; 5, Miss L. L. Jones, A. St. L. Trigge, equal; 7, A. J. Hunter; 8, Miss C. L. Thacker; 9, O. P. Edgar, B. M. Jones, equal; 11, D. J. Armour; 12, F. D. Fry, B. L. Reid, equal; 14, G. J. Laing, J. A. McLean, equal; 16, Miss C. Smith; 17, Miss E. Bunnell, Miss B. Carson, Miss M. E. Henderson, W. S. W. McLay, equal. Class II.—1, R. D. Coutts; 2, Miss F. C. Idington, A. T. Kirkpatrick, equal; 4, J. C. Breckinridge, A. P. Northwood, H. M. Wood, equal; 7, H. C. Pope; 8, A. M. Stewart; 9, O. J. Stevenson; 10, Miss J. J. McDougall; 11, Miss M. Craig, Miss S. M. Smith, equal; 13, T. D. Dockray, F. R. Lillie, equal; 15, Miss M. F. S. Harden; 16, J. Armstrong, J. H. Cornyn, equal.

German: Class I.—1, Miss L. L. Jones; 2, C. A. Stuart; 3, F. J. Davidson, F. D. Fry, Miss S. M. Smith, equal; 6, S. B. Leacock; 7, Miss E. Bunnell; 8, D. J. Armour, O. P. Edgar, B. M. Jones, A. St. L. Trigge, equal; 12, A. J. Hunter; 13, Miss B. Carson; 14, R. D. Coutts; 15, Miss F. V. Keys; 16, T. D. Dockray; 17, A. P. Northwood; 18, W. S. W. McLay; 19, O. J. Stevenson, A. M. Stewart, equal; 21, H. M. Wood; 22, J. Armstrong. Class II.—1, R. L. Reid; 2, J. A. McLean, Miss C. L. Thacker, equal; 4, F. R. Lillie; 5, Miss F. C. Idington.

ARTS, ALPHABETICAL HONOUR LIST.

This list contains the names of those who wrote outside Toronto.

Classics: Class I.—W. Hardie. Class II.—J. McNicol.

Mathematics: Class I.—L. K. Fallis, D. J. Ross, Miss J. G. Rothwell. Class II.—F. M. Bowman, Miss E. A. Buchanan, F. J. Burrows, Miss J. W. Carter, J. M. Godfrey, W. Hardie, J. W. Johnston, M. P. McDonagh, A. Mowat, J. C. Rogers, F. J. Rothwell, J. W. Treleaven.

English: Class I.—Miss M. M. Elliott, D. Ross. Class II.—W. M. Bell, Miss E. A. Buchanan, F. J. Burrows, Miss J. W. Carter, W. Hardie, M. P. McDonagh, A. Mowat, J. C. Rogers, Miss J. G. Rothwell, J. Rothwell, J. W. Treleaven, W. Watts, Miss F. M. Wissler.

History and Geography: Class I.—Miss J. G. Rothwell, W. Watts. Class II.—Miss E. A. Buchanan, F. J. Burrows, Miss J. W. Carter, Miss M. M. Elliott, A. W. Ewers, J. M. Godfrey, W. Hardie, J. A. Oliver, F. E. Perrin, M. W. Peters, J. C. Rogers, D. Ross, J. W. Treleaven.

French: Class I.—Miss M. M. Elliott, W. Hardie. Class II.—Miss J. W. Carter, J. McNicol, Miss F. M. Wissler.

German: Class I.—W. Hardie. Class II.—Miss M. M. Elliott, J. McNicol.

ARTS, PARTIAL EXAMINATION, RELATIVE STANDING HONOUR LIST.

Mathematics: Class II.—1, G. D. Corrigan; 2, P. L. Pickard; 3, G. L. Tucker; 4, T. W. Standing; 5, W. McCallum; 6, W. Dillane.

English: Class I.—1, G. L. Tucker; 2, T. W. Standing. Class II.—1, Miss F. Phelps; 2, Miss V. M. McLean; 3, Miss D. Wilson; 4, Miss K. Johnstone.

History and Geography: Class II.—1, T. W. Standing; 2, Miss F. Phelps.

French: Class II.—1, Miss F. Phelps; 2, L. Norman; 3, Miss K. Johnstone; 4, Miss M. V. McLean.

German: Class I.—Miss F. Phelps. Class II.—L. Norman.

ARTS, PARTIAL EXAMINATION, ALPHABETICAL HONOUR LIST.

Mathematics: Class I.—Miss E. M. Hogg, Miss A. A. Stanley. Class II.—G. Arnold, N. Campbell, A. W. Connor, L. G. Hough, G. L. Macdonald, Miss B. M. Rutheford, T. H. Sneath.

English: Class I.—Miss Ackerman. Class II.—A. Maughan, Miss E. C. Platt, A. M. Robertson, Miss B. M. Rutherford, T. H. Sneath, Miss A. A. Stanley.

History and Geography: Class I.—A. Maughan. Class II.—Miss Ackerman, G. Fowler, Miss E. M. Hogg.

French: Class I.—Miss E. C. Platt. Class II.—Miss Ackerman.

ARTS, PARTIAL EXAMINATION PASS LIST.

S. R. Adam, R. D. Alway, Miss J. Abel, Miss E. Ackerman, Miss A. M. Ashton, T. D. Allingham, G. Arnold, A. Allin, P. D. Ball, W. A. W. Boys, W. S. Brown, R. W. Black, J. S. Brown, D. Campbell, N. Campbell, J. H. Clary, R. W. Carroll, Miss R. Cumming, A. W. Connor, G. D. Corrigan, W. J. Curtin, F. A. Carpenter, Miss C. A. Chaplin, W. Douglass, W. Dillane, W. L. Forbes, G. Fowler, R. F. Forrest, R. J. Gibson, F. W. Glen, G. T. Graham, L. A. Green, V. Halliday, T. Hawthorne, L. G. Hough, H. R. Harden, W. H. Harris, E. A. Henry, R. G. Holland, W. G. Hunt, R. B. Hendersh, N. B. Hare, W. R. Johnston, S. L. Jones, J. L. Killoran, W. J. Leaver, W. T. Lipton, J. F. MacGregor, A. Mathe-son, T. F. McEvoy, C. P. R. McLaughlin, Miss V. M. McLean, D. Munro, G. A. Murphy, A. S. McLean, Miss J. McLean, T. More, T. K. Morley, P. McArthur, Miss H. Mills, A. Maughan, W. McCallum, G. L. McDonald, W. L. McQuarrie, R. F. Nie, J. A. Newton, L. Norman, W. A. H. Oron-hyateka, R. Patterson, N. J. Perry, Miss E. Phelps, Miss E. C. Platt, J. R. Pedder, J. L. Pickard, H. E. A. Robertson, Miss N. Ross, Miss B. M. Rutherford, A. F. Reynar, S. W. Smith, J. Stapleton, J. H. Smith,

Miss A. A. Stanley, T. H. Sneath, T. W. Standing, J. Thornton, C. J. Taylor, Miss H. H. Taylor, G. H. Tucker, S. Watson, J. W. Wheaton, Miss D. Wilson, W. E. Wall, W. H. Wildon, Miss O. Williams, Miss L. Wilmot.

MEDICINE, COMPLETE PASS MATRICULATION LIST.

Miss M. L. Anderson, W. N. Barnhart, George McGorman.

MEDICINE, RELATIVE STANDING LIST.

Classics: Class II.—W. H. Barnhart.

Latin: Class III.—G. McGorman.

Mathematics: Class II.—W. H. Barnhart. Class III.—G. McGorman.

English: Class II.—1, W. H. Barnhart; 2, G. McGorman.

History and Geography: Class II.—W. H. Barnhart. Class III.—G. McGorman.

French: Class III.—G. McGorman.

Chemistry: Class III.—1, W. H. Barnhart; 2, G. McGorman.

MEDICINE, ALPHABETICAL LIST.

Latin: Class I.—Miss M. L. Anderson.

Mathematics: Class II.—Miss M. L. Anderson.

English: Class II.—Miss M. L. Anderson.

History and Geography: Class II.—Miss M. L. Anderson.

French: Class I.—Miss M. L. Anderson.

Chemistry: Class III.—Miss M. L. Anderson.

MEDICINE, PARTIAL EXAMINATION LIST.

Mathematics: Class III.—J. R. HOFFEY, A. W. WOODS.

English: Class III.—J. R. HOFFEY, E. M. MURPHY, A. W. WOODS.

History and Geography: Class III.—A. W. WOODS.

CONTEMPORARY LITERATURE.

BOOKS RECEIVED.

"The Pleasures of Life." Sir John Lubbock. London: Macmillan & Co.

"Dynamics for Beginners." J. B. Lock. *Ibid.*

"Macmillan's Latin Course." First year. *Ibid.*

"Questions on Physics." Sydney Young. London: Rivingtons.

"Chauvenet's Geometry." Philadelphia: J. B. Lippincott Company.

"Mind Studies for Young Teachers." New York: E. L. Kellogg & Co.

"The Elements of Algebra." New York: Sheldon & Co.

Scribner's Magazine for September opens with a fully illustrated article on "The Modern Nile," by Edward L. Wilson. The Rev. W. S. Rainsford, D.D., the rector of St. George's Church, New York City, who is well known as a lover of all kinds of healthy, manly, athletic sports, has contributed to

the *Magazine* a crisp and exhilarating account of some of his experiences while "Camping and Hunting in the Shoshonè." For the purpose of keeping together in a single number of the *Magazine* the Thackeray letters from America, which form the remaining instalment of those selected by Mrs. Brookfield for publication, the editor has printed in this number all the rest of the English letters.

THE PLEASURES OF LIFE. By Sir John Lubbock, M.P. Macmillan & Co., London and New York. Pp. 191. \$1.00.

This is one of the books we took with us for holiday reading. From the reputation of the author we expected, what we did not get, a treat. The addresses imply that human nature can be, what it cannot be, self-centred, and yet the benignant, intelligent and contented Sir John may be classed with "French philosophers," but it is at least doubtful if he can be put alongside with the "widow."

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We are grateful to the kind friends of **THE MONTHLY** who have, from many different places, sent us letters of approval and appreciation. If golden words were current

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