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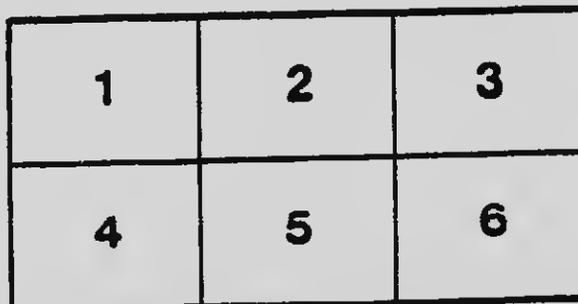
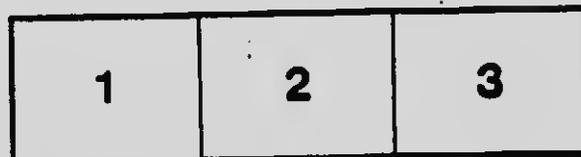
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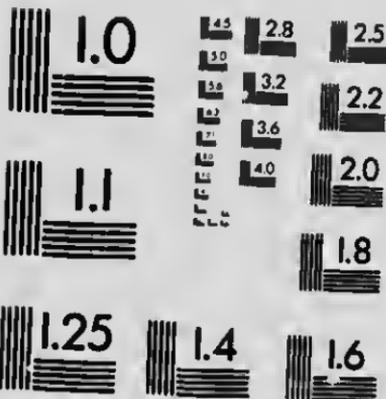
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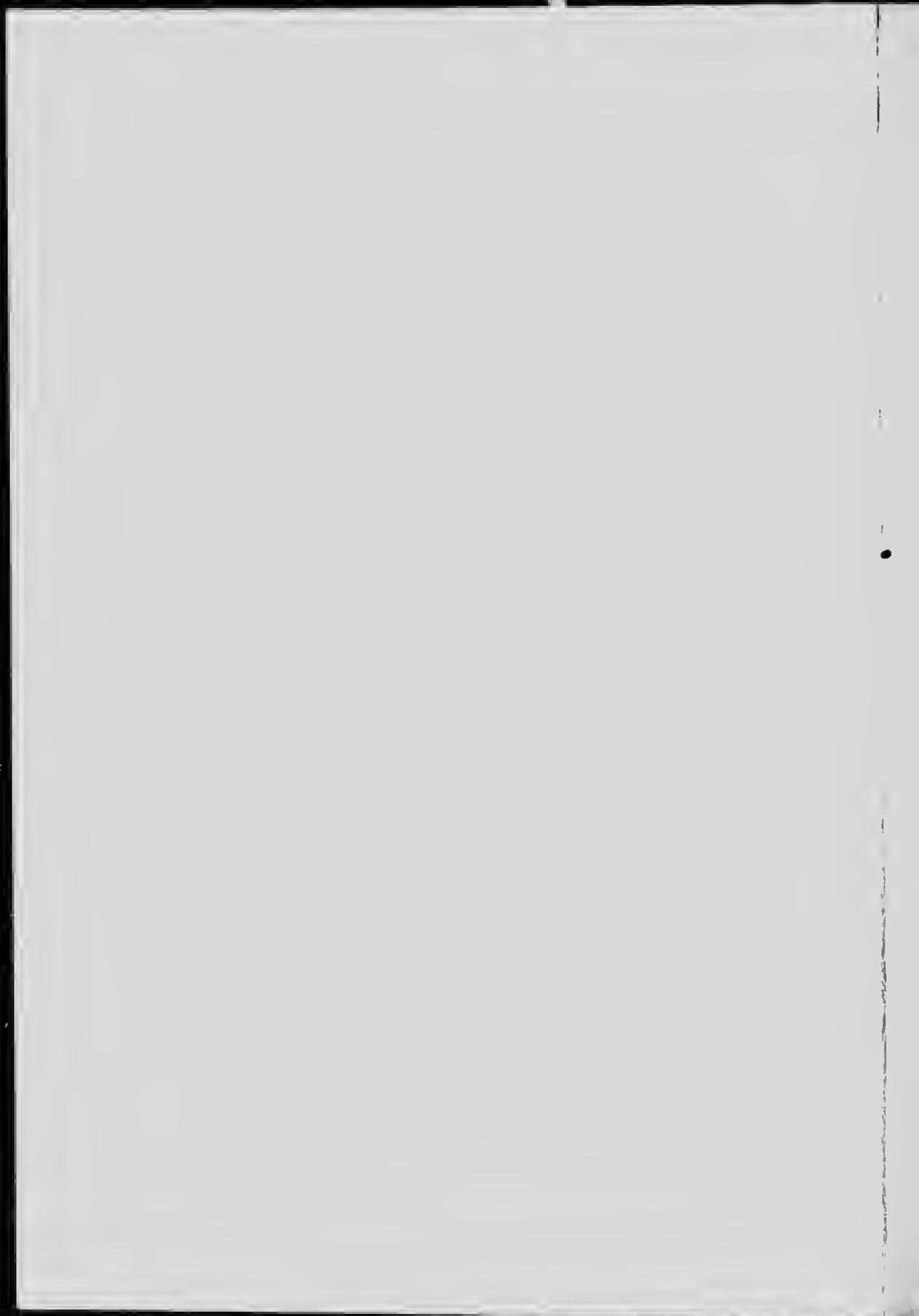
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# THE UNIVERSITY AND THE SCHOOLS

## AN ADDRESS

READ BEFORE THE QUEEN'S UNIVERSITY COUNCIL AND THE  
KINGSTON SCHOOL BOARD

—BY—

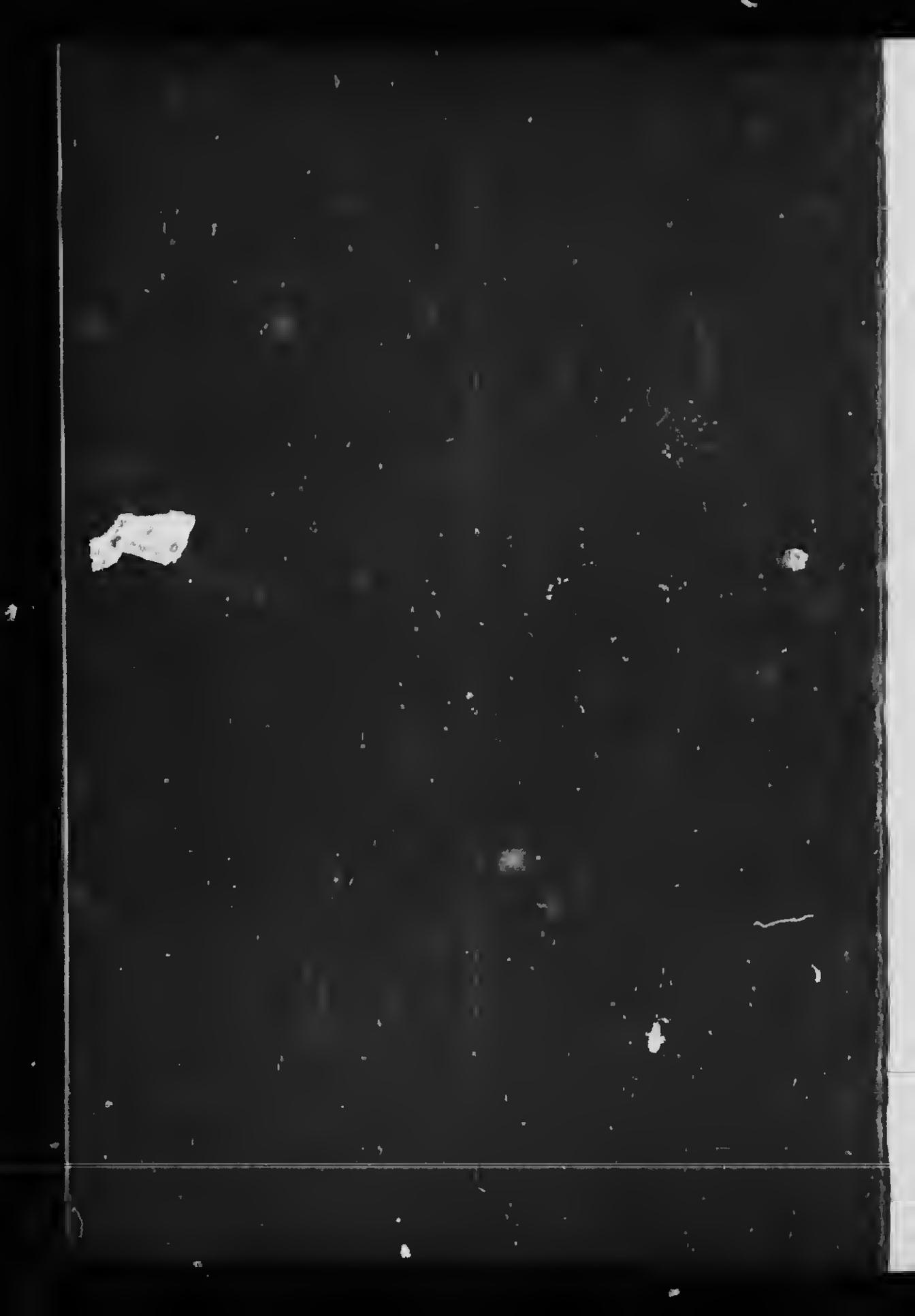
JOHN WATSON, LL.D.,

Professor of Moral Philosophy in the Queen's University,  
Kingston, Canada.

AND A SYNOPSIS OF THE  
DISCUSSION OF THIS ADDRESS

BY THE MEMBERS PRESENT.

1951



THE UNIVERSITY AND THE SCHOOLS.

IN his Convocation Address President Loudon brought before his hearers the important subject of reform in our schools and universities. It seems to me unfortunate—though not unintelligible—that he should have introduced, in connexion with it, a topic that, in my opinion, should be kept apart, viz., whether the Government should give financial aid to Toronto University, and should not give such aid to Queen's. This latter topic I purposely refrain from discussing. It is a question of great practical importance, but it should be kept distinct from the other. I shall therefore attempt to deal with the question as to the relations of the University and the Schools solely from the educational point of view. No one who has given attention to the subject can be unaware that the people of Ontario have a very confused, and to my mind very inadequate, idea of the scope, the methods and the aim of education; and the first thing required is to make as clear as possible to ourselves what we wish to accomplish, if we are to lift ourselves to the level of the best educated nations of the world. The problem is of very great complexity. We have to provide the best education for those who enter the higher professions—among whom should be included the teachers in our Universities, High Schools and Public Schools, as well as our clergymen, lawyers, doctors and scientific specialists; we have to provide for the education of those who direct our industries, trade and commerce; and we have to provide for the education of the mass of our people, who are employed in agriculture, in the counting-house, the bank, the workshop and the store. In a country such as this it is impossible, and I do not think it is desirable, to have a great variety of schools. We must always remember that a really national system of education must be so constructed that the children of the poor as well as the rich should have the opportunity of an "open career." It is therefore, as I think, essential that the Public Schools should be in close connexion with the High Schools, the High Schools with the University, and the University with the

professional training needed for our clergy, lawyers, doctors, teachers, civil and mining engineers, chemists and others. These higher careers should be open to all, and our educational system should be, as far as possible, adapted to the production of the best type of each. We must also bear in mind that, in a democratic country, our youth of both sexes have to be educated with a view to making them, not merely efficient in their special vocation, but intelligent and patriotic citizens. It is therefore of great importance that the national education should not be of a cramping and limiting character. Every citizen should be able to understand, in some degree at least—and the more thoroughly the better—the importance and significance of the various functions discharged in the community by his fellow-citizens. There is evidently some radical defect in a system of education which causes the literary man to despise scientific or industrial pursuits, and the scientific or business man to undervalue humane letters. Another thing we have to bear in mind is, that the future career of a boy is not written on his forehead: what he is best fitted for, and what are his special aptitudes, no one can tell—and least of all the boy himself—until he has been tried. It is natural for the professional man to desire that his son should follow in his own steps; it is natural for the shop-keeper to expect his son to take to trade; and it is natural for the artizan to assume that his son will be a workman. But we all know how disastrously in some cases such prepossessions operate. Sometimes the father insists on forcing his son to attempt the training required for one of the professions, even after it has become obvious that the boy is unfitted for such pursuits; sometimes a young man's career is spoiled by an injudicious father, who cannot be made to see that the boy was meant by nature to be an artist or a scholar, not a shopkeeper; and sometimes social prejudice or straitened means tends to make a poor artizan of a boy who might have been an able clergyman or lawyer. We must, then, be careful, in constructing our educational system, not to divide the community into those who are from the first intended to enter a profession, those who are meant to be engaged in industry or commerce, and those who are intended to be artizans. No doubt the social forces will continue to operate along these lines; but it should rather be our aim to moderate these tendencies

than to encourage them; that is, we should regard every boy as capable of any career, even the highest, until he has been proved incompetent for it.

It will somewhat simplify matters, if we begin by asking what is the best general education for the higher professions—the church, law, medicine, teaching, and the technical professions. By ‘general’ education I mean the training which the aspirant to one of these professions should undergo before he enters upon his special professional training. Perhaps I have not quite put the question in the best way; let me rather say, the training which will best fit a boy for any of these professions; for, as I have said, it is not always possible, nor does it seem desirable, that the precise career of our youth should be pre-determined. We must, in framing or modifying our system of education, bear in mind that our aim must be to produce, not a single type of citizen, but all types. We must seek to produce the highest type of clergyman, lawyer, doctor, scientific specialist and business man. Hence, we must not ask merely how industry and commerce may be best developed, any more than how scholars and scientific specialists may be best developed: our question must be, how *all* the most perfect types should be produced. This seems sufficiently obvious, and yet we find so eminent a statesman as Lord Roseberry approaching the question solely from the side of British commerce and industry. In his anxiety to maintain the pre-eminence of England in these departments, he is led to attack the educational methods of Oxford and Cambridge, and to suggest that Greek, and perhaps Latin, should form no part of their curriculum: that they should devote themselves entirely to science, and especially to science as applied to the industrial arts. And in support of his view he points to Germany as a country that has prospered by supplying technical instruction.

Lord Roseberry’s argument seems to proceed on the assumption that the sole aim of education is to secure the highest commercial and industrial success. That such success is a worthy object of ambition no one will be disposed to question. Nor, perhaps, need we question the truth of his charge against Oxford and Cambridge, that they have not sufficiently provided for the development of science, and especially of applied science. But

surely both of these things may be admitted, without conceding that the Universities should devote less attention to the humane sciences. The defects of Oxford and Cambridge are not due to the importance they attach to literature, history and philosophy, but to their want of due attention to the scientific investigation of principles and of their applications. Nor would these defects be remedied by abandoning the ideal of pure science, and paying heed only to its special applications. All the best advocates of applied science recognize that, unless provision is made for the disinterested study of scientific principles, the inevitable result must be that there will be no principles to apply. Lord Roseberry's appeal to Germany seems especially unfortunate; for Germany is precisely the country which has *not* neglected scholarship and limited itself to the special sciences, much less to technical instruction, but has devoted attention to all three, and especially to scholarship and pure science. Nor can Lord Roseberry be right in tracing the advance of Germany to its technical colleges, for the simple reason that these are comparatively few in number, and have not yet had time to effect any radical change, and because the improvement in German manufactures can be directly traced mainly to men who have received their training in the Universities. Lord Roseberry's appeal to Germany is therefore a doubled-edged weapon, which does more harm to the wielder than to those whom he attacks. The true moral of that appeal is, that no adequate solution of the educational problem can be found, which does not aim at thoroughness in all departments. We must not, in our zeal for industry and commerce, ignore the claims of literature, history and philosophy, any more than, in our pre-occupation with the latter, we should starve the former. Nor, again, in our perception of the importance of scholarship and scientific study, should we neglect to provide for the special requirements of industry and commerce. And, finally, we must not ignore the just claims of the mass of our population to an education which will not only fit them for their special work, but will make them intelligent citizens. Lord Roseberry's ideal of a nation seems to be that of a sort of glorified 'city of pigs,' as Plato calls it; though he would add, apparently, that it should be a 'city of pigs,' ready to fight for the Empire. I feel certain that, if he had his way, and England became really

a 'city of pigs,' or, in more polite phrase, a 'nation of shopkeepers,' as its enemies say it is, the only Empire for which her citizens would be willing to fight would be the Empire of Trade, and Trade is independent of national limits.

Though what I have to say will to some seem like truisms, perhaps I may be permitted to state briefly why exclusive devotion to industrial and commercial pursuits, and the limitation of education by that object, even if it could attain its end (which I deny), is not an ideal that a civilized nation can admit to be adequate.

I do not think Lord Roseberry would deny that the religious life of a people is something worthy of preservation. By 'religion' I do not mean a particular set of ideas about the world and ourselves, but that profound conviction of interests beyond those of one's special trade or profession,—that intense belief in the nobility of the higher life and in the possibility of its realization, which is the support and the inspiration of a nation. But religion, in a reflective age, must exist not merely as a vague feeling, but as a principle which can be established by a rational process. There must, in other words, be a philosophy or science of religion; and, if so, a class of men devoted to the pursuit of that science. If this class is not to be trained by our Universities, how is it to be produced? But if the education of this class is one of the functions of a Canadian University, it will hardly be denied that a very thorough training is needed, if Canada is to take its place beside the highly trained scholars of England, Germany and the United States. Now, the requirements of the highest type of theological scholar may be readily outlined. It is characteristic of all the humane studies, as they are now conceived, that they are above all *historical* in their method. Therefore the education of a theological scholar of the first rank must consist in a first-hand study of the history of religion, and especially of the Christian religion. Now, the Christian religion, as we know, is mainly a development from the Jewish religion, on the one hand, and from Greek philosophy, on the other hand; while, in its mediæval form, it was largely influenced by Roman institutions and ideas, and, in its modern form, by contemporary philosophy. The theological scholar, of the type I have in view, must therefore have a competent knowledge

of Hebrew, Greek and Latin, as well as of Ancient and Modern Philosophy. But this is not enough. The theological scholars of France, and especially of Germany, have a long way the start of us: they have been occupied with the history of Christianity, and with the process by which theological conceptions have been evolved, for over a century; and therefore our theological scholar must have an easy familiarity with French and German. It is also indispensable that he should have a good acquaintance with the results of the great scientific movement of the nineteenth century; and, though he cannot be, nor is it advisable that he should be, a specialist in any of the natural sciences, it is advisable that he should have a competent knowledge of at least one of them,—perhaps, above all, of the science of Biology, which has the closest bearing upon his special problem.

Now, I think it is a sound principle to maintain that every boy who enters the Public School, must be presumed to be a potential scholar of the type I have indicated, until his unfitness for it, or his greater fitness for some other vocation, has been established by trial. Assuming that he is to get his education in the Public School, the High School and the University, these must be so constructed as not only to make it possible for him, but to encourage him, to undergo the training necessary to fit him for being a theological scholar. His education must be of a very wide and thorough character, and no time must be wasted. To teach him Applied Science would be a most unpractical procedure. Nothing is 'practical' that does not secure the end in view. He must be provided with the organs required for the end we have in view, and Applied Science will not further that end. Our present educational system is not well adapted to the production of the theological scholar. And the reason is that it has not been designed with that end. Our present system is a compromise, which is the result of no definite conception at all: it has come from the clash and conflict of different ideals of education, from an inadequate conception of the education required for teachers, and from the impact of use and wont. President Loudon is perfectly right in his criticism of our present educational system, so far as the training of the future theological scholar is concerned. It fritters away his time on trivial subjects, deadens his interest by mechanical methods, teaches him nothing

thoroughly, and does not teach him what he ought to know. Our present educational system, so far as it has been designed, and is not the partial survival of another and nobler ideal, has been framed by men who do not sympathize with the scholars' ideal and indeed have never realized what it means. The future scholar enters a Public School at the age of 6 or 7, and leaves it at the age of 13 or 14. What has he learned during those precious 7 or 8 years? He has gained no more solid knowledge than a boy of average intelligence, under careful training, might easily acquire in 3 years at the most: he has simply acquired an elementary knowledge of reading, writing and arithmetic—a little grammar and history,—most of it dead and meaningless—and an unorganized collection of miscellaneous information, some of it of a very questionable character, and the whole of it superfluous for one who is going to study things thoroughly.

It may be said, however, that, though our Public School education is not the best adapted for the production of future scholars, it is the right kind of education for children who leave school at the age of 13 or 14. This is a curious doctrine! A boy's whole chance of education comes during his 7 or 8 years at the Public School, and we let him leave it so badly taught that he has no feeling for the literature of his ancestors—one of the noblest literatures in the world—he is unable to write a plain and simple paragraph, and he has no facility in the solution of the simplest arithmetical operations. The way to economize the boy's time is to spend it solely on fruitful work, which will educate his imagination, his taste and his intellect; and instead of doing this obvious thing, we cram him with dead and lifeless matter, and teach him things he has afterwards to unlearn! It seems to me that the right training for the boys who are to leave school at 13 or 14 would be the same training as for the future scholar,—with this difference that he should take more English and perhaps some little manual training, while the other is preparing for his future career by the study of either French or German. I would therefore suggest that, between the ages of 6 and 9, all boys should learn the rudiments of reading, writing, arithmetic and drawing; and that from 9 to 12, the clever boys should also take French or German in the Public School as an optional subject. In this way we should avoid the too early

separation of boys into distinct classes, and at the same time begin to provide for the wants of the future scholar. I believe it would be well if all the pupils in our Public Schools should know something of French, the mother-tongue of a large number of our fellow-citizens; but, as I am not optimistic enough to believe that the public mind is prepared for so radical a change, I only insist that it should at least be an optional subject for boys who intend to take a High School course. We might surely, as the Hon. Mr. Laurier suggested, pay our French compatriots the compliment of teaching their language to our clever boys and girls.

Let us suppose that our future theological scholar has completed his Public School education at the age of 12, and is now prepared to enter the High School. Between the ages of 12 and 18, besides the English subjects, he has to acquire a competent knowledge of Latin, Greek, French, German, Mathematics and Science. Obviously no time must be wasted. The main object is to enable him to *read fluently* the languages he studies. I make this reservation, because at present the amount of time wasted in our High Schools in the attempt to teach the pupil to acquire a colloquial knowledge of French and German—an accomplishment he will never acquire without living with French or German families, or going to France or Germany—is scandalous. For our future scholar French and German are simply instruments, enabling him to read with ease what is written in those tongues. No doubt he cannot be taught, as he ought to be taught, to read with intelligence, and to translate into idiomatic English, the languages he studies—Latin, Greek, French and German—without learning to appreciate in some measure the spirit of these languages and of the literature contained in them; but the main object of the High School course should be to give facility in reading them. Familiarity with the pronunciation of French, and with the phrases of ordinary conversation, should be acquired in the Public School. These things presupposed, there is, as I believe, nothing to hinder a boy or girl of average intelligence from covering the whole ground I have indicated in six years.

But we must also provide for the education of boys who may leave the High School at the age of 14. I therefore make the following suggestion. Any boy who, besides the ordinary branches,

has the required knowledge in French or German, as taught in the Public School, should be admitted to the High School; where, if he so elects, he may omit Latin and German, which the future scholar must take, and should devote more attention to English and French, mathematics and science. If he leaves the High School at the age of 14, no one can object that he has spent time on professional subjects like Latin and German, which he does not require. This concession I make rather to the present demand for what is called 'practical' education, than because I believe Latin and German to be useless even for boys who leave at that age.

At the age of 14 our future scholar should add the study of Greek and Physical Science, and continue them for four years, when he shall have reached the age of 18. The examination at this point should constitute the Junior Leaving Examination. *No options should be allowed*, but special excellence in one or more subjects should be regarded as making up for deficiencies in other subjects.

The boy who studies at a Collegiate Institute may specialize for one year in *either* Latin and Greek *or* Mathematics, Physics and Chemistry, but he must make a high percentage in his specialties, and must pass in English, French and German. The examination on this year's work will constitute the Senior Leaving Examination, and will be equivalent to one year in the University. I presuppose that the candidate has passed the Junior Leaving Examination one year previously.

I have taken the theological scholar as a norm, not because I think that education for those who enter the other professions should be different, but because it enables us to see more clearly what we should aim at. Precisely the same training, as I believe, should be given to every one who proposes to enter the University, including those who enter the Faculty of Applied Science.

The ideal of education I have sketched involves a more thorough training of those who make teaching their profession. The High School teacher should, of course, have a University degree, and this should be given,—not, as at present, for knowledge of one or two subjects,—but for eminence in either Literature or Science. Every teacher should in the High School study Latin, Greek, French, German, English, Mathematics and Science.

At present the education of the teacher of Modern Languages, Mathematics and Science is too narrow, and even the Classical teacher is, as a rule, deficient on the side of Philosophy and Science. We shall never have properly educated teachers, so long as we allow a man to obtain an Honours degree without a previous High School training in all the subjects mentioned. Men whose own education has been narrow invariably take a narrow view of education. To this fact is mainly due the present meagre course of training as prescribed for our High Schools. For that training is practically determined by the Matriculation Examination, and the Matriculation Examination is so constructed that very little Latin, and no Greek, is known by a large proportion of the matriculants. The necessity of an adequate knowledge of Greek and Philosophy on the part of the teacher of Modern Literature may be easily shown. The teacher of German Literature must study the great classical authors of Germany, who include such names as Lessing, Schiller and Goethe. Any one who knows these writers is aware (1) that they were powerfully influenced by Greek literature, (2) that they represent a great movement of thought which runs parallel with the idealistic philosophical movement, beginning with Kant and ending with Hegel. No teacher of German literature can deal intelligently with his subject, who does not know the masterpieces of Greek literature and the history of philosophy, ancient and modern. And he must know these subjects at first-hand, or his treatment of such authors as those I have named will be of the most arid and superficial character.

There are various subsidiary advantages of the method of education I have suggested. In the first place, the whole status of the professional classes would be raised. The clergyman who had passed through a severe training of the kind I have indicated, would become, more than he is at present, the enlightened leader of the people to whom he ministers. His education would tend to destroy prejudiced and sectarian views of life. The theological scholar, even when he began his practical career, would be less likely, as so many do, to drop all higher study. On the contrary, he would feel that, by following out some special line of study—perhaps extra-murally, under the guidance of the University theological professors—he would be preparing himself for

afterwards becoming a University theological professor, should an opening occur. A similar effect would be produced in the case of the teacher. At present the position of the Public School and High School teacher is unfortunate. His services are undervalued; he is underpaid; his work is monotonous; and, if he is a man who has a high ideal of education, his heart is almost broken by the unpromising material with which he has often to deal, and the vexatious opposition he meets with from the low aims of his pupils, the irrational prejudices of their parents, and the often unwise interference of the Board of which he is the servant. Under the scheme of education I have suggested, the teaching profession would be raised to a distinctly higher level, such a level as it has long occupied in Germany. If possible, all teachers should receive a University education—Public School teachers should at least be required to pass the Junior Matriculation Examination—and there should be a regular ladder of promotion from the Public School to the High School, from the lower to the higher grades of the High School, and from the High School to the University. The Public School teacher, after passing the Senior Matriculation Examination, might go on to complete his education, and obtain a University degree extra-murally, as indeed some already do. This would be comparatively easy, when he had already satisfied the requirements of the University Matriculation Examination. At present he is repelled from this laudable ambition by the want of correspondence between the examination required of teachers and the Matriculation or Junior Leaving Examination, which affords entrance into the University. The High School teacher in the higher forms would be doing work now done by the University teacher or professor. The effect would be to increase the salaries of Public School and High School teachers. Another advantage would be in the hearty co-operation of teachers with one another, and a fairer apportionment of time to different subjects. At present many teachers are jealous of subjects other than their own—mainly because their knowledge is almost entirely limited to the subjects they teach—and the tendency is to force into prominence their own subject, irrespective of the merits of the case. This lamentable state of things would be largely avoided by the abolition of the present absurd optional system. Every High

School teacher would have a competent knowledge of all the subjects of the High School curriculum, with a special knowledge of a whole group of cognate subjects, and he would not be under the pernicious illusion that the more hours he managed to secure for his subject the better educated his pupils would be. Moreover, in the smaller High Schools the teacher would be able to give instruction in any subject required, and thus, though he might not be able to prepare his pupils for Senior Matriculation, he would at least be able to prepare them for Junior Matriculation. There are at present, I am informed, schools in which some subjects cannot be taught, because there is nobody able to teach them. And this will become more and more the case under the present system. But, under the system I have indicated, where every High School master has studied all the subjects forming the curriculum, such a thing could not occur. We should imitate the method of the British Navy, where every officer must have a captain's certificate. And there is abundant experience to prove that, where teachers have been educated under the older system, and have therefore a good knowledge of all the subjects taught in the High School, pupils can be trained in a very satisfactory way by a small staff of energetic teachers.

In this paper I have purposely avoided dealing with the question of Technical Education, the discussion of which would require considerable space. I shall only say, that, in my opinion, it is of supreme importance that those who are to devote themselves to Applied Science should have a thorough preliminary training, such as is supplied by the kind of High School I have indicated. They should at least pass the Senior Matriculation examination before beginning their special work. The improvement of industry and commerce in Germany has been due chiefly to men trained in the Universities, and the condition of entrance into the Universities is a complete preliminary education in the Gymnasium or Realschule. Technical training for boys not intended for the higher professions should not begin before the age of 12, after a good basis of general education has been laid in English, Mathematics and Elementary Science.

As a practical scheme, embodying the suggestions of this paper, I offer the following curriculum of studies in our Public Schools and High Schools. The ages given indicate the *earliest*

age at which the pupil can be allowed to take the subjects mentioned, or come up for examination:—

PUBLIC SCHOOL.

*Age.*  
6 to 9.—Reading. Writing. Arithmetic.  
9 to 12.—English. Mathematics. Science. Drawing. . . . . French. *Options.*

HIGH SCHOOL.

12 to 13.—English. Mathematics. Science. Drawing. French. . . . . Latin.  
13 to 14.— " " " " " " . . . . . German. Latin.  
14 to 18.— " " " " " " German. Greek. Latin.

JUNIOR LEAVING EXAMINATION.

18 to 19.—English. *(a.)* Latin and Greek *or* *(b.)* Mathematics and Science. } French and German.

SENIOR LEAVING EXAMINATION.

N.B.—No candidate can attempt the *Senior Leaving Examination*, who has not, at least one year previously, passed the *Junior Leaving Examination*.

The plan of High School and Public School education, which I have endeavoured to outline, is the result of the best thought I have been able to give to the subject, and is framed in full view of what has been said by leading exponents of the two rival systems of fixed and optional subjects of study. I am quite prepared to hear it denounced by some as unprogressive and reactionary. It will be said that I am not alive to the needs of the modern world, and to the value of so-called 'modern' studies. May I venture to suggest that every new experiment in education is not necessarily a step in advance. The mobility of mind and decreased sense of individual responsibility, which are to some extent inevitable under the conditions of our modern life, bring with them a distinct danger to the higher life of the community. It is much easier to make rash experiments than to recover the ground we have lost. But when we have entered upon a wrong path, surely it is common sense to retrace our steps and start on better lines. It is unprofitable to throw blame for the present condition of education upon one party or another; we are all responsible for it. There is a general feeling, both in Canada and the United States, that something is wrong with their educational systems. The danger is that, in the attempt to provide a remedy we may only make things worse. Such a panacea I believe to be the movement for more, and ever more, specialization. It is like dram-drinking, or sensational oratory, which

have an increasing tendency to vitiate the taste. I propose that we should stop these hazardous experiments and take advantage of the proved results of the elaborate experiments in education made by older nations. England and Germany, as we must admit, have produced scholars and scientific men of the first rank: we have not, and under our present system I do not believe we ever shall.

Let us therefore exercise a wise humility, and frankly admit that, being a young and inexperienced people, we are very apt to make mistakes. Let us confess our educational sins and shortcomings, and try what repentance will do for us. To my mind the first false step was taken—I think it was in 1875 or 1876—when options were introduced into the High School curriculum, and naturally came to be accepted by the Universities at matriculation. I feel certain we shall never approach the level of the German Gymnasium, or the English Public or Grammar School, until we start our Secondary Education not later than the age of 12, and insist upon an all-round education. In the Universities we make the radical mistake of allowing options at Matriculation, before a broad basis of education has been laid in the High Schools. This is what comes of copying a foreign country in a superficial way, and ignoring the spirit which animates it. "The German Universities," it is argued, "allow great freedom in the choice of subjects; therefore Canadian Universities should do the same." This sounds well, but it is really fallacious. The first three years' work in a Canadian University is no higher than the last three years' work in a German High School. This means that the German Universities, in their ordinary courses, are doing what we should call post-graduate work; and of course post-graduate work should be highly specialized. When we have raised our High School education to the level of Germany, we may wisely allow a fair measure of freedom in the choice of subjects, because we shall then have laid a solid foundation for special studies; until we have done so the present optional system can only produce half-educated and narrow-minded men.

Another pernicious fallacy shelters itself behind the German *Realgymnasium* or *Realschule*. These schools, we are told, either omit Greek or make it optional, and devote their main attention

to Modern Languages and Science; therefore we, who are a 'progressive' people, should follow this 'modern' movement. This argument overlooks the fact that in Germany the classical schools largely predominate, and therefore the vast majority of students who enter the University, whether they intend to be clergymen, lawyers, doctors, teachers or civil servants, have studied Greek, and studied it thoroughly, in the High School. But we have a single system of High Schools; and if Greek is expelled from them, where are our future scholars to be trained? I foresee that, if the present system continues, the Universities will be forced to give an elementary training in the subjects not acquired by their students in the High Schools, or we shall be compelled to establish more schools of the type of Upper Canada College. I say that this will be the result, for I will not believe that the people of Canada can much longer remain blind to the wound inflicted upon scholarship and science by the mistakes of their educational leaders. To the institution of more schools, after the model of the English Public or Grammar School, I have no objection: they would probably apply a better discipline and training to the sons of our wealthier citizens—often the most pernicious, because the idlest, element in the community—than the ordinary schools afford, but, from the nature of the case, such schools would not remedy the defects of our present system, but would rather tend to accentuate them by abandoning our High Schools to the tender mercies of those 'hold, bad men,' the advocates of optional studies in our High Schools. What we need is an education of the highest kind, open to all; an education which will do the best that can be done for clever boys, however poor their parents may be. We must therefore, as I think, look mainly to the ordinary channels for improvement in our methods of education. Canada is still in the making, and, in our zeal for the progress of industry and commerce—a laudable zeal for which I have the greatest sympathy—we must not allow ourselves to fall behind or neglect the just claims of science and scholarship. If we do, the whole community will suffer. Hence, even if it were wise of Germany or England to permit High School pupils to elect their subjects of study, it would be unwise for us. There is no immediate danger of the higher studies falling into the background in these old countries,

where classical schools are numerous and highly valued ; with us there is not only danger of such a result, but the higher studies have not yet been placed upon a proper footing at all. For at least many years to come no options should be allowed to those who are preparing for the church, law, medicine, teaching or the engineering professions. The proper time for options is after the pupil has passed the revised Junior Leaving Examination. The present craving for options is mainly an excuse for laziness, and, with its other defects, it tends to destroy that high sense of duty which is insensibly developed in a boy who has to do what he naturally feels to be disagreeable or irksome, especially when his whims and fancies are encouraged by injudicious parents. If the Germans, as Lord Roseberry assures us, are learning to beat the English in the markets of the world, it is partly because they have been forced for over a century to undergo the High School training which wise men like Wilhelm von Humboldt, the father of the German Gymnasium, devised for them.

The successful operation of the educational system I have suggested demands teachers who are filled with enthusiasm for their work. Some people seem to think that the defects of our High School education arise from the fact that many of our teachers receive their non-professional education in the High Schools. That is not the charge I should bring against the present system. It is true that the limited number of subjects required from even our best teachers has incidentally led to the almost complete extrusion of some subjects ; but this result is not due to the fact that these teachers are educated in the High Schools, but to the fact that too narrow a range of subjects is required of them. Every Public School teacher should be compelled to take the Junior Leaving Examination, as outlined above ; and, until that is done, the majority will continue to teach in a dead and mechanical way. No one can teach the rudiments of a subject who does not know their value. To improve our Public School teaching, we must have better teachers, better text-books, greater concentration on essentials, and more rational methods. When our Public Schools are able to prepare our children for entrance into the High School at the age of 12 ; when our High Schools are able to raise our youth of both sexes, at the age of 18, to the educational level at present barely reached, after three

years in the University, at the age of 21 ; then, and not till then, can Canada hold up its head among the nations as a really educated people. Until that time comes, to talk about post-graduate work, except in one or two special subjects, is only misleading. At present our Universities cannot do satisfactory post-graduate work ; our young men are too old before they are ready to undertake such work with profit, and they are forced to begin their life-work without it. In Queen's we have been able to do a little genuine post-graduate work, partly because a few men have exhibited extraordinary self-denial in their devotion to Science, but mainly because we are fortunate in having Divinity students who stay on at the University for three, and sometimes for four years, after taking their Arts degree, and do a certain amount of post-graduate work concurrently with their theological studies. But even in a University so favorably situated as ours, the post-graduate work is hampered by the want of that scientific and scholarly preparation which the great English and the German Universities can confidently count upon. For many years to come, our ambitious youth will be forced to complete their education in England or Germany, or in such Universities as the John Hopkins. As things now are, these Knights-errant of education deserve the highest praise for their energy and self-sacrifice. If our young men and women are to be educated entirely at home, our whole educational system must be reconstructed in some such way as that I have tried to indicate. This would greatly improve, not merely our High Schools, but our Public Schools and our Universities ; and, in course of time, it is to be hoped that the whole tone of public life would be raised to a higher level. If I have seemed to speak disparagingly of the present condition of education in Canada, it is not because I undervalue what has been done, or because I have formed a low opinion of the energy and ability of our youth ; on the contrary, after an experience in teaching of nearly thirty years, I am convinced that no nation in the world has better material for the production of scholars and scientific men. Carlyle, in the middle of one of his savage indictments of his age, suddenly pulls himself up, and supposes some one to say ; "It is your *brother* you are anathematizing." To which he answers : "It is *my* brother ! Hence *this* rage and sorrow !" It is in a similar, though not, I hope,

in quite so savage a spirit, that I have ventured to speak of our educational deficiencies. Were it not my firm belief that Canada is fit for the highest things, I should have continued silent.

It can hardly be necessary to add that the system, which I propose could not come into operation at once: it would take ten or fifteen years before we could come within approximate distance of its realization. The first step in that direction is that we should clearly see what we are aiming at, and work steadily towards its accomplishment. If the two Universities could agree upon the necessity of abolishing options in the Matriculation examination, the basis for future operations would be laid. But the change could not be made at once. It would be necessary to give intimation that, say, in four or five years, all Junior Matriculants must pass an examination in all the subjects I have mentioned. To insure the successful operation of the plan indicated, the examination for teachers would have to be identical with that required for the Junior and Senior Leaving examinations. Then the standard of education for teachers in the Public Schools would have to be gradually raised. And in certain cases, the French or German, which I have suggested should be taught in the Public School, would perhaps have to be given in the High School, while in country districts it might be advisable to allow the Public School to do part of the work now limited to the High School. But these are details. For my part I should not be dissatisfied even if it took a whole generation to get the plan I have indicated into successful operation. JOHN WATSON.

## DISCUSSION OF DR. WATSON'S PAPER.

Prof. Dyde said that he was so entirely in agreement with the views expressed by Prof. Watson in his Address that he preferred to make way for those who might differ from them.

Prof. Shortt pointed out that Prof. Watson did not propose that all the pupils of the High School shall take the subjects required for the Matriculation Examination, but only those who intended to enter the University and prospective Teachers. That, he thought, would remove the main objection that some might have to the plan of education proposed.

Dr. Knight was the next speaker. He said:—In planning a forward movement 't is always well to consider the *terminus a quo* as well as the *terminus ad quem*. To understand the present condition of education in Ontario we must look back to some of the changes brought about by the Education Act of 1871. One of the most important of these was the change from local superintendents to county inspectors.

A second, and one the pernicious effects of which extend to the present day, was the attempt to distribute the legislative grant to High schools in accordance with what was known as the principle of "payment by results"—a reflex of the English system at that time. Undoubtedly, marked inequalities existed in the sums granted to different schools. The government paid High School trustees about \$10 per pupil, whereas it paid only \$1 for the same pupil when in the public school. The consequence was that in one city the whole of the pupils of the 5th and 6th classes of the public schools were draughted into the High School in order to increase the government grant. In other cases public school pupils, quite unfit\* to go on with higher work, were transferred to the high schools in order to keep up the minimum required by law. Moreover, the quality of the work done was very variable in different high schools. These defects were pointed out time and again by the high school inspectors, and the Act of 1871 sought to remedy the abuses complained of.

\*Grammar School Inspectors' Reports, 1866-69.

As a preliminary to the introduction of the new system of payment by results, a written examination for admission to the high schools was established in 1872, and the following year the questions for this examination were set in Toronto, the answers being read locally, as at the present time.

From 1871 to 1874 the High School inspectors wrestled with the problem of distributing the legislative grant on the basis of average attendance and of payment by results; but it was not until 1875 that a satisfactory scheme was promulgated. The scheme included as its chief feature the holding of a uniform written examination of all high school pupils in the province, about two years after their admission to the school. The answers were to be read in Toronto, and for all pupils passing this examination (called the intermediate examination) a grant of something like \$30 per pupil was to be paid to the High School trustees.\* Pupils below the level of the intermediate examination were to be paid for at the same rate as if they were public school pupils, viz., \$1 each. The examinations were to be held half-yearly in June and December. The first one occurred in June, 1876.

In order that no school, however small, should be debarred from sending up candidates, the examination subjects, besides including English, History and Mathematics, provide for an option between (a) Latin, (b) French, (c) German and (d) Physics Chemistry and Book-keeping. These options were based upon the fact that from 1871 to 1874 two courses of study had been open to High School pupils, and known as the English course and the Classical course. Manifestly if justice were to be done to every school, then pupils taking the English course had to be equated in some way with pupils taking the Classical course—hence the options. The details were all planned by the High School Inspectors, fully considered by the Council of public instruction and adopted after some slight modifications.

This system of options at examinations has ever since its inception influenced not only the High Schools, but the Universities and Public Schools as well. To understand this far reaching influence, we must now consider a third change also inaugurated by the Act of 1871. This third change was the abolition of

\*High School Inspector's Report, 1874.

the old County Board of Examiners, and the substitution therefor of a new County Board with somewhat different duties. The County Inspector was one of its most important members. The new board prepared none of the Examination papers. These were set in Toronto by the Central Committee,\* for all classes of certificates, I, II and III. The answers of the I class or highest were read in Toronto; the answers of the II and III class candidates were read by the new County Board. The object of this centralization was to secure greater uniformity in the qualifications of Public School teachers, and there is no doubt that to a very great extent it did attain this end. The new County Boards continued to discharge their duties until 1876 when new influences came in and profoundly modified their whole scope and duty.

In this year the Chief Superintendent of Education was replaced by a Minister of Education (The Hon. Adam Crooks), and a committee of the Executive Council took the place of the Council of Public Instruction. The energy of the new minister had to find an outlet in some way and as a consequence numerous changes took place. To utilize the Intermediate Examination, the Education Department granted equivalents in the Examinations of Public School teachers for passing the Intermediate Examination of the High Schools. II class and III class non-professional teachers' certificates could be obtained in this way. The power to grant II non-professional certificates was taken from County Boards and centralized in Toronto. The Normal Schools were limited to training in professional work, and a new set of schools, called County Model Schools was established (opened 1877) for the professional Training of III class teachers. The non-professional or literary training of all candidates for teachers' certificates was thrown almost entirely upon the High Schools.

Work in the high schools now took on a terrific pace. For the "Intermediate Examination" imposed upon the High Schools from above rapidly transmitted its baleful effects to every public school in the country, and suddenly examinations became the sole standard by which the people judged of the

\*First appointed by Council of Public Instruction in 1871, Prof. Young, Chairman, at first with H.S. Inspectors. Then representatives from P.S. Inspectors added. Later on others from Colleges.

efficiency of a teacher. For the next few years (1877-1882) whip, lash and spur were applied to teachers and pupils alike.\* Every subject was neglected excepting those which would "tell" at examinations. On the one hand, success in passing examinations meant larger money grants to Boards, certificates and University scholarships to pupils, professional advancement for teachers, parental ambition gratified; on the other hand, failure meant untold suffering and public humiliation for pupils and parents, and, in addition, it not unfrequently meant professional extinction for the teacher.† Beelzebub himself could scarcely have devised a more subtle instrument of torture. Woe to the school which failed to furnish its quota of bricks. So mad became the scramble to pass at examinations and advertise results in the newspapers, so serious the frauds attempted in trying to pass, that the Education Department determined (1883) to hold but one examination a year, and the following year it abandoned altogether the attempt to distribute the grant in accordance with the much vaunted principle of payment by results.

Hitherto we have been following certain influences acting upon the high schools from above. Democracy was now to have its turn. Pupils who had passed the high school and teachers' examinations, backed by their high school teachers,‡ began knocking for admission at the doors of the Universities. They had passed, in English subjects and mathematics, examinations equal to if not superior to that required for matriculation. They had passed also in one of the four options already referred to. What more natural than that they should ask the universities to credit them with the work they had done? The so-called "denominational colleges" were the first to recognize the high school examinations as equivalent *pro tanto* to matriculation (1882). In 1885 Toronto University followed suit and inaugurated two other changes. Science (physics and chemistry) was given an optional place at matriculation in compliance with

\*Ont. Teachers' Ass., Minutes, 1881. Inspector Hodgson, 1883, page 146. Inspector McLellan, 1883, page 143.

†S. Arthur Marling's report, 1880, page 24. Also page 99.

‡In 1880 Education Department assumed the examination of all candidates for teachers' certificates.

§Teachers' Assn. Minutes, 1884. Hon. G. W. Ross became Minister in 1883. Introduction of kindergarten classes, 1882.

the request of the high school section of the Ontario Teachers' Association, and French and German were admitted as an option for Greek. The influence of the "intermediate examination" had been distinctly hostile to Greek (less so to Latin) but the admission of this option at matriculation almost banished Greek from the schools.

This same year Latin or French or German was accepted by the Education Department as an option in obtaining teachers certificates, a fact which according to one of the High School inspectors saved these languages from a decline and fall similar to that which had overtaken Greek. The fact is that Latin and Greek both suffered from 1877 to 1889, the former falling off in numbers from 50 per cent. to 34 per cent., and the latter from 10 per cent. to 6 per cent., while French and German maintained their same relative numbers. The decline can be directly traced to the influence of official regulations. A revival of learning can be created by an examination; a decline and fall, can be brought about by the scratch of a pen. The examination paper is King—and absolute at that. Subjects are studied or neglected, just as they appear or disappear from the programme for examination. We shall have further proof of this later on.

The period from 1886 to 1890 was marked specially by the large numbers of High School pupils preparing for teachers' certificates (estimated as half the total number), and by the gradual approximation of the curricula and examinations of Public School teachers to those of matriculation into the universities. This approximation culminated in 1891, when the Education Department began to conduct the matriculation examination of Toronto University in various parts of the province, and in place of the Central Committee constituted a Joint Board composed of representatives of the Education Department and of Toronto University to appoint examiners for the joint examinations.

As a direct consequence of this unification of examinations, we find a marked increase in the number of matriculants\* and of pupils taking Latin, French and German.

In Report of 1887 Mr. Seath estimates that half of the High School pupils of the province were preparing for teachers certificates.

Four Training Institutes for High School assistants were established in 1885. Kindergarten system established by law in 1899.

Training Institutes discontinued and in 1891, and the School of Pedagogy established in their stead in Toronto.

\*492 matriculated in 1892, as compared with 56 in 1867.

From 1891 to 1896 the percentage of those studying Latin rose from 38 to 63; in German from 10 to 18; and in French from 42 to 55; while the percentage of those taking Greek remained almost constant from 1877 to 1896. The mere unification of the two examinations was not however the main cause for this marked increase. To understand the cause we must look at the change which Toronto University made in its matriculation requirements at the quinquennial revision of its curriculum in 1890. At this revision she carried the system of options a step further. English subjects, Mathematics and Latin are compulsory as before; but instead of two choices as in 1885, four were allowed, viz., between (a) Greek, (b) French and German, (c) French and Science and (d) German and Science. The two latter were granted in deference to public opinion, and in response to the wishes of teachers of science and modern languages.

As soon as the classical teachers of the province realized that Greek was doomed to suffer by the manifold option system of the High Schools, they became prostrated by a prolonged attack of hysteria. A classical association was formed, annual meetings were held, and when the next quinquennial revision occurred in 1895, the Senate of Toronto University in order to satisfy conflicting interests agreed to add a modern language to the subjects compulsory at matriculation, and reduced the options to two, viz., (a) Greek, and (b) the second modern language with Science. We shall see later what effect this change had upon the study of Greek.

In 1896 the Hon. Mr. Ross made a change in the curriculum of the higher public schools, which, in my opinion, was the most vital one made since 1871. He authorized the establishment of what is known as "continuation classes" in 170 towns and villages in Ontario. In these classes the subjects of study are somewhat the same as in the first form of the high schools. In fact the public schools, in which this work is done, becomes a small high school for the locality. They receive legislative grants ranging from \$100 to \$25, according to the quantity and

In 1894 Latin was made compulsory upon all candidates for II class certificates.

In 1896 matriculation and teachers' examinations divided into Part I and Part II to lessen the "pressure" upon pupils and teachers.

quality of the work done. Mr. Ross might have safely extended their usefulness by placing an all round graduate in arts in charge of them. They would then approach in character to the celebrated parish schools of Scotland. There is many a "lad of pairts" to be found in a Canadian "Drumtochty," and the village "Dom-sie," B.A., should be able to discover him and prepare him for college. The "open career" should not be limited to the favoured pupils in our 130 high schools.

In looking over the records of the past thirty years one sees ample evidence of progress in primary, secondary and University education. Grounds, buildings, libraries, apparatus, have all improved. Teachers undoubtedly possess higher scholarship and greater professional skill than ever before. Two features stand out prominently as characteristic of the period. In the first place one sees the universities acting directly upon the high schools through the matriculation requirements, but especially through the graduates who are teachers. With equal clearness one sees the high school teachers and ex-pupils of the high schools reacting upon the universities, and profoundly modifying, not alone matriculation, but the pass and honour courses, which are founded upon the matriculation. Hence, we are prepared to find in 1900, when another quinquennial revision of matriculation subjects occurred, that Toronto University again changed its options. The compulsory modern language of 1895 was abandoned, and the options were again extended—no less than six being permitted, viz., any two of (a) Greek, (b) French, (c) German, and (d) Science. The well meant attempt of 1895 to secure more votaries for Greek had signally failed.

The second feature is more characteristic of the second half of the period. It is this. The teachers' examinations have largely determined the selection of particular options at matriculation. To get a teachers' certificate a candidate was compelled to take science. He might also since 1885 take a modern language. Consequently, when he came to matriculate, as many of them did, he simply "got up" the balance of the work required. In this way the requirements for teachers' certificates have always directed the stream of matriculants into one main channel. The evidence in support of this view is overwhelming.

In 1897, it was decided to limit specialists certificates in High Schools to graduates in Arts. Percentages of these studying Latin, French, German, increasing.

Last July 519 passed the Ontario Departmental matriculation and of this number 316 took the modern language and science option.

Coming to Dr. Watson's paper, it is, in brief an earnest plea for a higher ideal of scholarship than has hitherto prevailed in Ontario, and a plea that the avenues to the realization of this higher ideal should be opened wide to every boy and girl in Ontario. The Universities turn out our young men and women handicapped in the race for scholarship. Our system of options blocks the way. Our examinations, stimulating, paralyzing, dominating all our school work—at once a blessing and a curse, render the best teaching impossible.

How is the ideal sketched in Dr. Watson's paper to be realized? Not by taking one huge stride, but by a succession of well considered steps.

1. The Education Department should raise the standard of matriculation for all who intend to become teachers in our High Schools, or principles of Public Schools with "continuation classes." This step can be taken without the co-operation of the Universities. If it receives the approval of the Ontario Teachers' Association the Minister of Education would soon pass the necessary regulation. The increased matriculation requirements should be announced two or three years ahead. They can be defended on the ground that a higher standard of scholarship should be aimed at, and on the ground that qualified teachers are now so numerous that they cannot procure situations.

2. The Universities should raise the standard of matriculation in Arts and Science. In Science the present requirements are discreditable. It is idle for any University to profess to do the highest kind of research work with its post-graduate students now-a-days unless they have some familiarity with classics, French and German. A knowledge of French and German, is as essential to a research worker in science as a microscope or a chemical balance, and it is the fault of the Universities, and the Universities alone, if every matriculant does not possess an elementary knowledge of classics, moderns and science. The High Schools have been doing all the necessary teaching for such a higher matriculation for over fifteen years. When the matriculation has been raised it will be easy to raise the standard for teachers certificates.

3. We must try to create a public opinion in favor of a high standard of scholarships for its own sake—not for its vulgar display at examinations. I think it was Schiller who said "Against stupidity the Gods fight in vain." But Demos is not half so stupid as some of his would be leaders. The good natured giant needs some one to voice his scholarly aspiration and Dr. Watson has done it.

## TORONTO UNIVERSITY MATRICULATION.

1880. Classics, Mathematics, English, Moderns optional.  
 1885. Latin, Greek or Moderns, English, Mathematics, Science optional.  
 1890. Latin, English, Mathematics, (a) Greek, (b) French and German, (c) French and Science, (d) German and Science.  
 1895. Latin, English, Mathematics, One Modern, (a) Greek, (b) the other Modern and Science.  
 1900. Latin, English, Mathematics, and Greek, French, German, Science any two, giving six options.

Professor Martin, of the Royal Military College, a member of the Kingston School Board, spoke to the following effect:—"It is a matter of great regret upon my part not to have had the time at my disposal, since receiving the printed copy of Dr. Watson's paper upon the Universities and Schools, to give it that consideration which, I am sure, it deserves. I am, however, impressed with the idea that the discussion which he has given does not involve such details of our educational system as will probably interest the great mass of the public who have the power to move towards a change for the better. I do not think Dr. Watson should expect the general public to have definite ideas upon the aims and methods of Education, for the individuals comprising the public have professions of their own to follow, and I think they expect direction upon educational matters to proceed from those whom the public support for that purpose—that is, the members of the staff of the Universities, High Schools and Public Schools of the Province. They are in the position to view the effect of the methods adopted, and upon them should fall the responsibility of any well recognized defect. I regret that Dr. Watson did not include in his paper a discussion, in more detail, of the subjects used in our public schools to develop the minds of children as they proceed along the pathway which should lead in the direction of the highest pinnacle of scholarship to which the University aspires to assist. For an explanation of the well recognized fact that our educational system is at fault we have to look to the early attempts made, in all good faith, in our Public Schools to nourish the scholar in embryo. I claim that the subjects in-

cluded in the curriculum of the Public Schools are not adjusted to the mental development of the pupils in attendance. I refer especially to grammar, arithmetical problems, history and geography. The subject of grammar, as dealt with by the usual textbook, is one that could be considerably modified and shortened to the comprehension of the pupil. The arithmetical problems of the Public School arithmetic are too often

“Tricks to shew the stretch of human brain

Mere curious pleasure or ingenious pain,

and are not *what* they should be at that time of development—simple, direct applications of the mechanical operations which should be done with facility and accuracy. The History in our schools is so curtailed that it cannot interest the pupil, even if he were sufficiently developed to understand the philosophy of it. The Geography is simply too extensive in its scope and too far away as it were to be of any value in the mental development. These subjects are deserving of considerable attention as the enemies of our attempt at educating our embryo scholars. Let our school readers contain stories well adapted to give the pupils a taste for a literature which they will better appreciate at a later and more opportune time. Our aim should be to cater to the appetite of the pupil and give it what will nourish and at the same time be relished. I claim that the beginning of a foreign language will do this as soon as the child can talk, whether it be Latin, French or German.

I think optional subjects, until a pupil has passed out of the High School, are undesirable. The general culture of the pupils to that stage of their development should be uniformly encouraged, and the sympathy which an understanding of the usefulness of each subject has will help to eliminate the jealousy which sometimes shows itself in one who has been narrowly following a special line of thought to the exclusion of all others. These roads all lead in time to the same elevation, viz., scholarship. Our Public Schools and High Schools are very detrimentally affected by that dreadful ordeal, the “written examination.” It first makes its appearance in passing from the Public School to the High School, and its distressing influence penetrates into our Public Schools to the extent of about three years. Instead of the pupil quietly indulging in the subjects which are best suited

to his mental growth, he is spurred on for the last three years, (which should be the most important in the Public School) under great nervous strain, to make the leap that will land him *up* into the High School. Should he decide not to take this dreadful leap, he gets very little opportunity to develop in the Public School, and the chances are that he will drop out entirely, thinking he has finished his education so far as opportunities at his disposal permit. The necessity for a more gradual and continuous rise from the Kindergarten to the University is admitted, and with a view to that need being realized it seems to me essential to abolish all sorts of written examination tests, and resort to personal examination of the candidate for promotion. This examination should be conducted by the master in charge of the class in which the pupil is, together with the master in charge of the class to which he may be promoted, the latter deciding his fitness for such promotion. Should this be adopted, I venture to say that the appearance of the pupil in the highest form of the Public School would be sufficient proof of his attainments to guarantee his admission after one year's work to the High School, where he could be dealt with in a manner similar to that in the Public Schools. His appearance in the highest forms of the High School would justify his acceptance, after one year's work approved by his masters, by a University, Law School, Medical School, Theological College, Science School, Normal School, &c., when he may proceed to study especially for the profession of his choice. He will, by this time have sufficiently developed to make a choice, and it is here where I should advocate options, being permitted for the first time.

I rather take exception to a comparison being made between the proportion of scholars realized here in Canada and those found in the Old Country. Scholarship is a function of a man's surroundings, and we in Canada have no such historical environments and inspiring localities as they of the Old Country have. Were our University men able to travel abroad and find occupation in a centre like London, Paris or Berlin, perhaps we would think more flatteringly of our training here. But, alas! we must have bread and sometimes butter, before we can go far afield, and so our imaginations are not fired by ambitions, and our development is thus quietly tapered off to fit in with the prejudices

of our few companions and friends. After all the world is the great University to which we must look for our finishing touches ; and should we not learn the lessons therein taught, our punishment will be great indeed.

A degree from a University certainly does give us a prestige in the world, and the expectations of our companions, who have been perhaps less fortunate in not going up for the examination for entrance to the High School and thus missed the University, inspire us to an effort to do those things for which we are no more fitted than the man in the street. It gives us a healthy pride in ourselves, and a sense of shame comes over us when we find that though we can write a few letters after our name and get the recognition of our far-famed Alma Mater, yet we cannot cope with the man who has picked up his education in the streets of the world without the polishing process of a University. In this sense a University career with all its present short-comings is a valuable vantage ground from which to begin. Let us not allow the public to lose confidence in the training of our Schools ; for the Professors and Teachers are responsible for this technical deficiency, and a combined action should at once see to it that things are immediately represented to the Minister of Education, who will always be found ready to give to the people what we all know and feel they need and require.

I hope Dr. Watson will give us the pleasure of listening to further detailed thought upon this great subject. Such exponents of Education as Dr. Watson and President Loudon giving the same directions as to changes should be a power irresistible in the Province to make the changes at once.

Mr. W. S. Ellis, M.A., Principal of the Kingston Collegiate Institute, spoke substantially as follows :—To me the reorganization of studies and the adjustment of work between the public school, the high school and the university appears to be a much larger and more complex problem than the mere question of what is most suitable for matriculation. We who are in touch with the public know something of the discontent and dissatisfaction with the existing conditions in educational matters, and I think any successful attempt to deal with college requirements in the high schools must come as part of a general reformation of the curriculum.

In my opinion the time has fully come when the high schools of the province must take their place as educational institutions with courses fairly complete in themselves, and must cease to be merely preparatory schools for the universities or for departmental examinations. Their aim should be mainly to give an education to the great mass of the youth of the country; and matriculation and teachers' certificate work, instead of being the main object of the existence of these schools, must take a secondary place to the general education. Half a century ago our predecessors inherited or imported their course of study for the public schools largely from the Irish national schools of that day, and the course for the grammar schools seems to have been of a somewhat composite nature; but for at least thirty years there was no thought of these schools doing other than preparing pupils for entrance into the professions, sometimes directly, sometimes through the university. Half a century's progress of a growing, progressing, restless people means great advances in industry, modes of living, domestic and national improvement, with their consequent demands for educational advancement. Unfortunately those who should have controlled this school work effectively have failed to do so, but have stuck on a bit here, lopped off a bit yonder, and twisted and confused portions elsewhere, until to-day we have, so far as either educational or practical results are concerned, a haphazard, systemless course of study in public schools without proper sequence, proper grading or adjustment to the mental development of the pupils. While the course for the high schools is not so bad, it is faulty enough to prevent efficient educational service to the public. It is this service to the public, which the schools must adapt themselves to render, if secondary education is to continue to have any vigorous existence with us, and if primary education is to perform the part which civilization requires from it.

It is surely one most desirable thing that children should continue at school as long as circumstances will permit of their doing, and a second thing equally desirable that their time and energies while at school should be advantageously employed. Mental development, which is one aim of school work, means increased intelligence, and it is this growing intelligence of the people at large which makes for national prosperity, morality and

the advancement of what is best in life and in society. There have been among all peoples at all times men of ability who were leaders, but there has never been an exception to the rule that it is the high state of intelligence of the people in general that makes for progress, for endurance and for moral worth. Hence the necessity that we should by every reasonable means induce,—not compel,—the attendance to the greatest possible extent of the children at schools, and that the most efficient means for their education should be adopted while they are attending. If this contention is right, and I think it is or I would not advance it, the conclusion follows that money invested by the community in schools and education, is not a capital expenditure without return, as most people seem to imagine, but is an investment in an asset which is intended to yield, and without any doubt will yield, both to those who are getting the education and to the nation that furnishes it a profitable return financially as well as intellectually in the coming years. I hold strongly to the opinion that "the education of the children of the state is the first and most important duty of the state and that the efficient carrying on of this duty should be the first charge upon the property held within the state,"—an opinion that I believe is easily capable of defence on the grounds of national progress, national morality and national safety. Similarly I hold to the position, and I think it equally defensible, that the state has a right to demand from every citizen within her bounds the development to the greatest extent of the powers and capacities with which he has been endowed; and conversely every youth has the right to the means for cultivating to the highest degree his capabilities for improvement. This is not a fantastic idealism, but is a necessary adjunct of progress and civilization. We are told at times by the man on the street,—who knows of course all about education, as he does about everything else—that scholars in high schools and colleges should pay for their own education, and that it is an imposition for the general tax-payer to have to put up money for these institutions. The answer seems easy. Does the educated and scientific farmer, artizan, teacher or preacher appropriate to himself the entire proceeds of his skilled work? Does not the community as a whole profit by the results of his labors? A friend and former student of mine went the other day, at a large salary,

to take charge of the exploration and development of the mining industries of a neighboring province. Is the five or six thousand dollars a year paid him by that province the only profit that is to accrue from his skill and knowledge, or is it not rather true that while he will draw this money the people of the province expect to make hundreds of dollars under his direction, for every one that comes to him individually? The education and proper development of every child is a matter of personal moment to every citizen, especially so in democratic countries; hence the necessity for careful supervision and proper support of schools that they may meet the legitimate demands of the times and circumstances in which they exist. It will not do to fall back upon the schools of our fathers and assert that they turned out strong men, so their methods, and their studies are good enough for us. The vigorous life of the early days in this country had probably much more to do with the making of the strong men than had the schools. More recently systematic study of education, and greater knowledge of mental development have provided for the present generation the means for very important school improvements if we choose to profit by the advances made.

I presume that however we may differ as to the value of the actual kindergarten exercises, no one disputes that the principle of that system is the correct one for young children. Yet we take the children out of those classes, where all has been active, bright, cheerful, alert and set them at a desk to begin their first book, say at six years of age, then for twelve straight years, if they continue at school, the order is, "Eyes front" and grind constantly for examination. The life in the school and the life beyond the school have ceased to bear relation to each other. Surely it cannot be good that the activities of childhood are suppressed, that the natural channels of acquiring information are shut out, and purely artificial standards of excellence set up. It seems desirable therefore that the principles upon which the work of the Kindergarten Class is arranged should prevail in at least a portion of the school curriculum of succeeding years.

In my opinion the subjects that lead to waste of energy and waste of time in the schools are chiefly grammar, especially the endless, tedious analysis and parsing; arithmetic in the unsystematized manner in which examination requirements compel

the teaching of it ; history that deals with minute unimportant events, or even with great happenings whose surroundings and importance children cannot understand ; the geography which consists of the learning of countries and capitals, islands and capes, boundaries and governments ; foreign languages as far as the greater part of the colored prose exercises are concerned.

Now a few lines about the constructive side of the curricula. I think we should begin right at the kindergarten and build up a course of study, consisting of four departments, which would form a central core of all primary and secondary school work, and which should be continuous from the lowest class of the public school through all grades to the highest form of the high school. These four departments would be English, mathematics, science and manual training. Pedagogically considered these would make up a fairly symmetrical and complete educative course, affording the means for mental and physical development and training, the imparting of desirable information, and the acquisition of the knowledge which any well informed person should be possessed of. In detail, these departments would be made up of English,—a general course in reading with the teacher selections from good authors and pieces of current literature, with exercises in composition, and just enough grammar at the proper stage to make the boy or girl acquainted with the few inflections of English speech. In this reading course, and as part of it should come the only history that the child would get until at least the fourth book class, and it should be made up of historical incidents, short biographies, picturesque narratives, voyages and explorations. About the close of the public school period a short sketch of Canadian history might be taken up, because of the interesting local associations ; and surely the British history for high school pupils should relate to events of recent times. A glib knowledge of the heptarchy is not all important to a boy who is ignorant entirely of the Australian federation or the American revolution. So with geography, that which relates to man, his development, and the conditions of his living, such as products for trade and commercial routes, affords all the education that can be obtained from the subject, and covers all that should be attempted. In mathematics, arithmetic and geometry should go together from the

beginning. The aim in arithmetic should be to give pupils facility in the use of the simple rules as applied to whole numbers and fractions, with practice in common commercial operations, such as any tradesman might have to employ. Some experience with children has convinced me of the value of simple geometrical exercises derived from concrete examples, as a means of mind training. This would connect immediately with the manual training work in paper cutting and drawing. What I have designated science would be, in early years, that which is sometimes called nature study; and the object of introducing it is to cultivate the children's powers of observation, their ability to reason from noted facts, and to keep up some connection between the school life and the active occupations they gave up when they entered the school. The subject of manual training has been so much discussed of late that little need be said about it. In my opinion it deserves a place on any educational programme that makes pretension either to be modern or complete.

This curriculum followed on into the high school and widened out a little within these departments, so that the mathematics would become generalized in algebra and geometry, and the nature study branch off into geography, botany, physics and chemistry would make up the general course for the student whose education would end some place in the primary or secondary schools; and it should be compulsory upon all scholars. Those who desired to specialize, as for matriculation, for teachers' certificates, for commercial employments, or mechanical occupations, would take up their specialties at proper times, but as offshoots of the central system. For instance, it is perfectly well known that some boys and girls are intended to go to college from the time they first enter the schools for these the extra subjects would be the required languages and they should be commenced at convenient times in the course.

A necessary part of any scheme of adjustment among the educational institutions, indeed necessary for the good of the great mass of pupils, is the abolition of the present Entrance Examination. I have already referred to the desirability of keeping boys and girls at school as long as possible. Now any break in the continuity of the school course, any dropping of a number of subjects at once and taking up of others, anything which stamps

with finality a particular period of school life is to be carefully avoided. If we could get away from the crippling departmental regulations and have a little freedom in our educational work there should be nothing impossible or even difficult in arranging for promotion from Public School to High School, within the town or city municipality, in much the same way that promotion now takes place from form to form in either school. Further, to avoid the break already spoken of, it would be both possible and desirable to start in the senior classes of the public school some subjects now relegated entirely to the high school, so that as many studies as possible might be just carried on from the other classes after admission to the high schools. In many places it would be quite possible, for instance, to begin a language at least a year before scholars left the public school, and for those not going to the university the mathematics and science would form a connecting link. The principal object may perhaps be attained in various ways. But the fact is that some 60,000 children in this province of Ontario annually drop out of school at an age of 13 or 14 years, and if we can make a course of study that will, without sacrificing education, keep even a fraction of these pupils at school for a year or two longer, the stake is worth trying for. Whether this would cause the admission of pupils to high school at an earlier age than now is quite immaterial, so long as the courses in both schools are educative, rational and practical enough to appeal to those who should take advantage of them.

One of our present difficulties arises from the complicated and troublesome system of options. I am in doubt if there is an institute in this province that has a time table which permits of all possible options being taken. Anyway they are a real difficulty and, I think, hinder rather than help education. The question most generally asked by the student is not "Which course is best for me?" but "What can I get through on easiest?" A plianse of school work that leads to this result needs no discussion. I advocate a choice between courses of study, but no choice between subjects in a course. A student going up to the university should have no choice as to what he would be examined on; options should begin after matriculation, not before. There might, it seems to me, profitably be two standards for admission, to be used in this way. The candidate has to pass on five de-

partments, Classics, Moderns, English, Mathematics and Science; on, say, three of these, the lower standard might be accepted, but on two related ones the higher mark should be demanded from him. This would ensure a broad training without barring out the student who found extraordinary difficulty with one or even two departments. As I have mentioned, it is early known that some pupils will in all likelihood go to college; for these the subjects in addition to the general course would be languages, and these might be begun in many cases in the public schools. Similarly the boy or girl who will probably have to leave school at 15 or 16 years of age should have attention and help in the subjects, if any, in addition to the four departments spoken of, which may fit him best for his proposed occupation.

With regard to matriculation, I believe that the high schools are ready to respond to any reasonable demands that the universities may make. At the same time it will be necessary that the universities live up to their demands. There is no sense in upbraiding the schools for poor work while the colleges are going out of their way to devise easy methods and special examinations to permit ill-prepared, immature students to enter their classes,—students who, when admitted, force the professors to do the most menial high school work,—grinding for examinations. To me the ideal method seems to be the preparation of students for matriculation by the high schools, then that a dozen or so of the best equipped, best staffed institutes should take these matriculants and give them a year's work, similar to the first year in college, only better done, then the universities could do really their proper work. I have no hope however of any such reform as this so long as the present competition for students exists, but it does seem to me pertinent to ask what ground any university has upon which to base an appeal for a larger grant of public funds so long as it is duplicating the work of the high schools of the country which are supported by public money.

In my opinion the particular subjects required for matriculation are not of great moment. The quality of the work is all important however. It will probably come about in a few years that some schools will drop out of the race and will confine themselves to doing non-college work, this will be more and more the case if a four language course is demanded for matriculation.

Some smaller schools will not be able to carry all the studies, and this is one condition that must be anticipated if such a change as Dr. Watson proposes comes about. The universities, however, should require such work as the middle class and better schools can do and not set as a maximum the limit that can be reached by the poorest high school in the country.

The reforms that I anticipate, some in the near future, but all before half a generation has gone by, are (1) the rationalizing of the course of study in primary and secondary schools (2) an adaptation of the high schools to the needs of the whole people by the adoption of a curriculum that will afford a good general education to children who cannot attend college (3) the making of the high schools, at least so far as this general course is concerned, free from fees, so that all who are qualified may attend without expense; (4) the abolition of the present barrier for admission to high schools, and a considerable modification in the method of admission to college, (5) the requiring by the universities of a better, broader and higher matriculation, (6) a unification of interests and mutual help among all three kinds of educational institutions so that instead of being separate and in classes by themselves, the public school, the high school, and the university shall each react upon the others to the advantage of all.

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The following communication from Mr. G. Winter Mitchell, M.A., Principal of the Collegiate Institute, Cobourg, bears so closely on the subject of discussion that it may be fitly inserted here:

Professor Watson seems to me to have got at the right solution. I have repeatedly pointed out that the defects of our High School system lie not so much in the curriculum laid down as in the manner in which it is taught. I have always said that High School teachers had themselves to blame for the shortness of time given to the subjects on the curriculum. There is no regulation stating that such and such a subject must only have so many years given to it. Teachers themselves are responsible for the rush, and their purpose is to show how smart they are in getting candidates ready for certain examinations in a very short space of time. I have persistently discouraged pupils from attempting the Junior Matriculation examination in less than five years. They tell me that it is done in other High Schools in

three years. I reply: "Very well, go there, but I will not attempt it in less than four." By aiming at five years I always get them to take four, and in quite a number of cases I manage to persuade their parents that the five are necessary. I have no less than four in this small school who are taking five years to Junior Matriculation and six years to Senior Matriculation. That is how I pass 94 per cent. of my candidates. We don't do any cramming whatever. Teachers are strictly forbidden to talk in their classes about examinations of any kind. We hold no examinations of our own throughout the year except in one or two subjects at Christmas, and one regular examination in June, which is forced upon us by the Department of Education. We have to send in a confidential report as to the standing of each pupil in every subject, and so one examination is necessary. In short, the unpleasant part of High School work can be avoided if the Principal of the school refuses to have anything to do with cramming for examinations. In some schools, I am told, there are examinations every week. Then comes the difficulty that the Principal may be willing to run the school on these lines and the Board may object. Of that I have no experience, and cannot say whether any Board would go so far as to dictate to the Principal how long it will take such and such a pupil to pass such and such an examination.

Supposing that your scheme of the four languages together with Science were made compulsory for all, there would be the same rush unless some very stringent regulations were laid down to prevent it. The first thing that is absolutely necessary is the abolition of the Entrance Examination in its present form. I have tried an experiment for a year. A little daughter of one of the citizens had been at a private school. She is not strong and is of average ability. The question was whether the child could stand the multiplicity of lessons she would have to take at the Public School. I advised the parents to send the girl for the forenoon only, and take whatever they taught her during that time. I also stipulated that I should be allowed to teach her Latin from 7 to 7:15 every evening. They agreed. The girl already knows as much Latin as my pupils who have been two years in the Institute, and of course knows more English grammar than most of them in her class at school. I want that little

girl in the Institute now, and I cannot get her there, forsooth, for two years yet, because she has not ground up the customary History, Geography, Physiology, &c. I still keep up the Latin lessons, though it is not convenient to give them so frequently. But in two years, that is, when she comes up for the Entrance Examination, she will know as much Latin as my ordinary matriculant. Here is actual proof of what you are getting at theoretically, the only difference being that this pupil is beginning with Latin and going on to French and German, instead of the other way about.

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Prof. Watson, in summing up the discussion, pointed out the remarkable unanimity of the meeting. All agreed (1) that the present optional system in the High Schools was a mistake, (2) that the subjects taught in the Public Schools were too many and the method of teaching them mechanical. It was significant that an eminent mathematician like Prof. Martin condemned the style of teaching arithmetic. Mr. Ellis rightly insisted upon a "central core" of education, and, though he was an advocate for a rational method of technical education, he was not less alive to the supreme importance of giving an all-round education to those who were to enter the University, and to the necessity of giving a more thorough education to Public School teachers. It was also held by men of experience, like Prof. Martin, Mr. Ellis and Mr. Mitchell, that the Entrance Examination should be abolished. As a cautious man, he was not himself prepared to say definitely that the Entrance Examination was the source of the evil. If the proper studies are prescribed, good teachers can work under any system, and examinations had their good side. That was the great point: more vital teaching. Objection had been made to determining the stages of education by the age of the pupil. All that he meant by saying that the pupil should enter the High School at the age of 12 was that the Public School education should permit of a boy or girl of average ability beginning higher work at that age. This was important because education could not be hurried, and six years as a rule was required to overtake what was necessary in the case of pupils preparing for the higher professions. The people of Ontario were not, he thought, sufficiently alive to the importance of vital

education, which, as the "divine Plato" pointed out long ago, so largely determined a man's character in after life. He begged to draw attention to one feature of his scheme of education, to which Prof. Shortt had adverted: the majority of High School pupils were not expected to take the severe course prescribed for the future scholar and scientific man. His reason for combining the teaching of prospective University students and of boys who left the High School after two or three years was (1) to prevent class distinctions, and (2) because it enabled those who did not take the higher studies to live in a finer spiritual atmosphere. With Mr. Ellis' demand for a course of training for the majority of pupils who leave the High School at 15 or 16 he was in entire sympathy, and a careful reading of his paper would show that he had kept that in view, as well as the requirements for teachers and university students. It was an augury of future success that the defects of our present system were so generally admitted, and that the gradual improvement of Public and High School education, as well as of University teaching, was hopefully anticipated.

Though no resolutions were put from the chair at the meeting, there was general agreement that Latin, Greek, French and German should be compulsory for Junior matriculation, and that to this end the following steps should be taken at once;—

1. The adoption throughout the Province of a well considered scheme of Christmas promotions.
2. The reform of the text-books, especially those used in the Public Schools.
3. The radical simplification of the history, grammar, geography and arithmetic of the Public Schools.
4. The granting to local boards permission to introduce into the highest form of the Public Schools either French or German or both.
5. The abolition of three-fourths of the prose and grammar in the Greek, Latin, French and German of the High Schools and Institutes.
6. The reconstruction of the requirements for Junior and Senior Matriculation.

