

TRANSACTIONS  
OF THE  
**Literary & Historical Society**  
OF QUEBEC.

.....  
SESSION OF 1864-5.  
.....

PAPER I.—OPENING ADDRESS.

By JOHN LANGTON, M.A., PRESIDENT.

*(Read before the Society, 21st October, 1864.)*

IN addressing you at the opening of the present session, I find very little in the condition and prospects of the Society which calls for any special remark. No great calamity has befallen us which I may ask you to lament with me; nor have we met with any such signal success as to afford a subject for special congratulation. We have advanced, during the past year, evenly, but prosperously on the whole, and our history is written in our Transactions, our list of members and the Treasurer's balance sheet, and in the Catalogue of our Library which lies on the table. Were it not that the first term of our agreement with Morrin College approaches its termination, there would be nothing immediately connected with ourselves to which I need call your attention; and upon this subject I have only to remind you, that before the first of May next, the two bodies must decide whether our present connection is to

subsist for another term of three years, or whether we are to prepare ourselves for other arrangements.

Under these circumstances I have selected, as the subject of my opening address, a question of the deepest interest indeed to us all, as members of the community, but with which, as a Society, we are only remotely connected. I propose to offer some general remarks upon Education, and especially with the view of considering their bearing upon the educational institutions of Canada.

The subject is far too extensive and complicated a one to be treated of in all its details within the limits to which I am necessarily confined. In the fullest sense, it not only embraces intellectual culture, which is the more popular acceptation of the word, but the physical, moral and religious, æsthetic, and I may add, social and national training of youth, so that all the qualities, which enter into the composition of that complex creature man, may receive their full development, and that he may be fitted to take his allotted place in society, and use all the powers with which nature has endowed him to the greatest advantage for himself and his fellow-creatures. All of these branches of education possess peculiar features of their own, to exhibit which; even cursorily, would expand my remarks into a treatise, which would be unsuitable, both in its limits and its matter, for an address to a mixed audience. Without ignoring, therefore, the importance of the other branches, which all necessarily react upon and modify each other, I shall confine myself upon the present occasion to the intellectual training, which it is the object of a sound system of education to promote; and I shall not presume, in deference to the ladies present, to offer any opinion as to the exact period of the general educational course, at which their peculiar duties in life, and perhaps even the natural tendencies of their minds, may point out the necessity of their branching off into a separate course of study in institutions designed for their special cultivation. By thus confining myself to the intellectual training alone, I shall escape some of those points which have given rise to the greatest amount of discussion, and the conscientious difference of opinion upon which has unfor-

tunately had the effect, in most countries, of retarding the adoption of any general national scheme, which all are nevertheless anxious to promote. I would willingly also avoid another vexed question—the relative advantages of different methods and courses of study; but the subject is so intimately connected with the organization of any general system of schools, that it cannot be passed over.

I was led, upon a former occasion, to discuss the twofold aim which should never be lost sight of in education—the imparting practically useful information on the one hand, and the developing and training the intellectual powers on the other, so that habits of thought may be induced which will be applicable to all subjects, upon which those powers may hereafter require to be exercised. I then expressed an opinion that, as usually happens in controversy, the advocates of each system had laid too much stress upon their own favorite view, to the exclusion of the other side of the question, and that both objects must be kept ever present in the mind of any sound educationist. I still think that this is the most important consideration for every framer of a national scheme of education, and, at the same time, it is one of the greatest difficulties which beset his path. If all men were nearly alike in mental gifts and in worldly position, the question would be comparatively a simple one; but a truly national scheme of education must adapt itself to all ages, to all classes of society, and to all grades of intellect. In the same school, and often in the same class, will be found boys whose ultimate destinations in life will be most diverse; and the one may be about finishing all the education which the circumstances in which he is placed will permit, whilst the other has hardly entered upon the course of study which is laid out for him. Yet both must, almost of necessity, be taught from the same books, and by the same methods. To keep the two aims in view, each in due subordination to the other, under such widely different circumstances, must be a problem of the greatest difficulty; and like most social questions, it can only be approximately solved by a compromise. It is thus that the double object of education—the training of the mind and the imparting of positive knowledge—has

such an important bearing upon the organization of our school system.

A general scheme of education to meet the wants of the whole nation should embrace, at least, six classes of institutions, whose objects are very different, and into which the two elements of education enter in very different proportions.

1. Primary schools—Excluding altogether infant schools, which can only be successfully established in towns, and are only imperatively called for by peculiar states of society, and then hardly fall within the region of intellectual education which alone I am considering,—the first duty of the State is to provide schools, in which every child, whatever its station in life, may obtain at least the rudiments of education. I say it is distinctly the function of the State to provide such schools, not only because the classes who principally take advantage of them compose the great bulk of the population, but because without the aid of the State they would frequently lack the means, and too often even the inclination, to maintain them, and because they would certainly be deficient in those comprehensive views, which are necessary to ensure their being established and conducted upon a sound and judicious basis. These schools afford the beginning and the end of all the education, which more than nine-tenths of the population will ever seek for, or be able to obtain. They may, indeed, form for some few the commencement of a course to be pursued elsewhere; but this is only a secondary use to which they are put. They are emphatically the people's schools, and all other considerations ought to yield to making them perfect for the object for which they are designed. Here the great mass of the people are to acquire all the positive knowledge which is ever to be taught them; and here all the systematic intellectual training they will ever be subjected to must be provided for, so as to fit them to make the best use of their knowledge, and to take advantage of any opportunities of further improvement which may occur. Labor for their daily bread being the lot of most of them, the time during which they can profit by the school is generally very limited. Reading, writing, arithmetic,

and a reasonable correctness in the use of their own language, is usually the sum of actual acquisitions which they can carry away with them; and such other studies as may be prepared for them should be selected as much with the object of forming their character, as of storing their minds with useful facts. It would be out of place for me to enter into detail of the subjects which might be so employed; but I shall return to the question hereafter, when treating of another branch of the subject.

2. Another class of schools, which we may call secondary, is almost equally essential, in which a more advanced education may be placed within reach of those who are able and willing to take advantage of it. In towns and thickly-settled localities this object will generally be best attained by a distinct institution, but the higher classes of a primary school may be made to accomplish the same end. Such schools, being the final step in the education of the great majority even of the middle classes, the practical utility of the knowledge acquired is of as much importance as the mental training undergone during the study. The increased length of time over which the schooling extends affords an opportunity for the introduction of many subjects, which would be out of place in a primary school; but whatever studies be selected, care should be taken that, within the period of the ordinary course, the knowledge of each which is acquired should be tolerably complete. There is a natural desire to embrace in the course as many as possible of the numerous ramifications into which modern knowledge extends, each of which has strong claims upon us, both for the importance of the facts to which it relates, and for the useful lessons afforded by the manner of arriving at them; but if too large a field be laid out for our operations, the result is apt to be a mere smattering and fragmentary acquaintance with the facts, and a knowledge of technical words and phrases which have left few traces behind in the cultivation and enlargement of the mind. It is far better, both for actual use and also as a mental exercise, to have acquired a few things well, than to have skimmed over the surface of an extensive programme of study.

3. These two classes of schools should, I think, be provided for by the State, although not to the exclusion, in different proportions perhaps, of contributions towards their support by those who use them. Another class, whose proper functions are very different, though it is often, more or less, confounded with the preceding, being more limited in its objects, may be made more exclusively to depend upon voluntary contributions. They may be called higher preparatory schools, and a junior division may be made, for those who frequent them, to supersede the ordinary primary schools. The proper function of such schools is neither to commence with the rudiments, nor to complete, as far as it is to go, the education of their scholars. It is to pave the way for further study, if not always in a regular collegiate course, at least in a learned profession, or for those classes who have leisure and opportunity, after leaving school, for carrying on their studies to a more advanced stage. The fact that it is not designed to be a final stage has an important bearing upon the subjects which may appropriately form part of the course. Many branches may not be pursued as far as in the secondary schools, and others may make a prominent part of the programme, as laying the foundation for future progress, which it would be useless to commence in the others. The training may also be a more prominent object, the fruit being to be reaped hereafter.

4. The universities and other collegiate institutions form a fourth class; and here again, the intervention of the State is almost essential. The subjects embraced in the programme must be diversified and numerous, or the institution will lose half its value. Not that it is necessary or even advisable that any one student should attempt too great a variety of studies; but an opportunity should be afforded to all, at some period of the course, to branch off and to devote themselves more particularly to those subjects, which either commend themselves to their peculiar bent of mind, or are most important for the pursuits which are to form the main business of their after lives. We must remember that we are no longer dealing with boys, but with men, and that the

training, which it has been the aim of previous studies to perfect, must now, if ever, make itself manifest in its results. Where such a large field is to be embraced, the professors must be numerous, and they must be able and adequately remunerated. The buildings also, and the library, museum and other appliances must be of a more expensive character than is required for minor institutions; yet the numbers who frequent the higher seminaries of learning are not so great, that the institution could ever be adequately supported by their contributions alone. There must necessarily be a large independent income from some source; and until a country is sufficiently advanced to have accumulated wealth in the hands of individuals, and until it is old enough to have produced a succession of men, who are both wealthy, liberal and enlightened, and who have no immediate claimants for their acquisitions (a concurrence of conditions which is not likely to be frequently repeated), private munificence will hardly furnish the necessary means. If the colleges—the crowning point of the educational scheme—are to be really efficient, the State must come in aid of other sources of income.

5. These four classes would comprehend everything that is essential to a general system of national education, as it is usually understood; but there are besides special schools, whether for exceptional members of the community—as for the blind or deaf and dumb, where an entirely different method of instruction must be pursued—or for particular professions, as Normal Schools for teachers, Agricultural Schools, Military Schools, &c., where, besides practical instruction in the details of each profession, greater importance is attached to those branches of general education, which have a special bearing upon the future labors of the students. Many of these must also mainly depend upon State endowments.

6. There remains still one class of institutions, the aim of which is to direct and encourage adults, whose ordinary education has been completed, to supply the deficiencies of their previous teaching, or to carry on to a later period the mental cultivation, which the necessity of engaging in the active pursuits of life has too early

interrupted. With this object, I think that in connection with all primary and secondary schools, maintained by the State, there should be evening classes for the benefit of those who, at other hours, are engaged in their various daily avocations. The persons who would avail themselves of these facilities would not, perhaps, be very numerous, especially in the rural districts, and it would be almost useless for any instructor to expect to receive adequate remuneration for his labors from his pupils themselves; but I think it may not unreasonably be imposed as a duty upon the state-paid schoolmaster, that he shall be ready to afford his aid to such adults as may be willing to continue to improve themselves after leaving school. How many instances do we not meet with of men like Stephenson and Watt, who, after the necessary labors of the day were over, have sought instruction amidst difficulties which would have deterred any one from the attempt, who had not a tenacity of purpose far exceeding the average of men; and who, in spite of these difficulties, and without any aid and encouragement from without, have succeeded in their endeavors, and have raised themselves out of the humble class in which they were born. How many instances must each of us know amongst those who have never risen to eminence, but who have fallen within our private observation, of men who have been influenced by the same desire of knowledge, some of whom have partially succeeded, whilst others have either abandoned the attempt in despair, or for want of proper advice and guidance have failed of obtaining a profitable result from their well-meant labors? If the cases of this kind are so numerous even now, when no aid is given and no facilities are afforded, might we not reasonably expect that under more favorable circumstances, even those, who lack the energy to bear down obstacles, would yet willingly avail themselves of such opportunities as might be placed within their reach.

If ever there was a country, in which we might expect a demand for the means of adult education, and in which we should hope to see its useful fruits, it would be one situated like Canada. In most of the older countries of Europe, society has become, as it were,

stereotyped, and the different classes are separated by almost as distinct boundaries as castes. With rare exceptions, such as the father was, such will be the son, and it will require much persuasion, or an unusual impulse of ambition, to convince either that the education, which served the purpose of the one, will not be sufficient for all the wants of the other. But here, as in other new countries, all such traditional distinctions are thrown down, and all start almost upon equal terms. The mixture of the very various ingredients of our population gives rise to a species of social fermentation which is constantly bringing up to the surface men, who in Great Britain would have remained hopelessly at the bottom, whilst too frequently those, who should have maintained the advantage with which they started, are found to be sinking to an inferior position. No one who has had twenty or thirty years' experience in Canada can have failed to perceive this process going on in both instances. My own experience has been principally confined to a newly-settled district in Upper Canada; and I could name scores of cases of young men, who, had they remained in Great Britain, would have been hardly above the condition of day laborers, without a thought of ever rising beyond it, who are now prosperous farmers, occupying positions of trust in their municipalities, and seated on the bench of magistrates; and whose sons are looking higher still, and often aspiring to the learned professions. Yet the majority of these men have had little more than the merest rudiments of education; and their sons, except in a few exceptional cases, have had no better opportunities than are afforded by a common school in the back woods, for a few years of their boyhood. If then it be true—and I believe it is so—that every father, in the lower and middle classes in Canada, may reasonably hope that his son, with good conduct, may rise to a higher grade in society than himself, is it not for the interest of all that there should be some means provided by which the son may attain to a higher grade of education also, to aid him in his fight upwards, and to fit him to maintain the position he may reach with credit to himself. Is it not the duty of the State to make provision beyond

what the common schools afford, for those, many of whom will be amongst our future magistrates, and even our legislators ?

In towns, where the tradesmen and mechanics congregate, something is done, and much more might be done, by Mechanics' Institutes, Young Men's Associations, and similar institutions, which may, to a great extent, be supported by voluntary contributions. But in the country parts, unless the State intervene, nothing can be done for those who are past the school age ; and even in the towns, evening classes should be open to all who are willing to resort to them, upon the payment of a moderate fee, the State contributing something more in proportion to the number of students.

Amongst such institutions, designed to encourage adult education, we may count societies like our own, standing something in the same relation to those I have been considering, as universities do to schools. We do not profess, indeed, to teach anything, but our papers and discussions cover a large range of subjects, our library is well stocked, and above all, our meetings bring such young men, as are desirous of improving themselves, into connection with those of mature years and longer experience, from whom they may derive valuable hints and advice, and receive hearty encouragement. I think it has been already announced to you that notice has been given of a by-law, which will come up for discussion at our next monthly meeting, which, if it be adopted, will still further increase our field of usefulness in this important particular. It is proposed that we shall establish another class of members—junior members—who shall, under certain restrictions, have all or most of the benefits enjoyed by regular members, for a smaller subscription, but without a vote. I think that the plan might possibly be enlarged, by placing our rooms and one evening in the month at their disposal for papers to be read by them under the presidency of some of the officers of the Society, but from which, out of consideration for the modesty of youth, the public at large would be excluded. I merely throw this out as a hint to the gentleman who has charge of the proposed by-law ; but if the suggestion be adopted, care must be taken that these meetings do not degenerate into a mere debating society.

I have discussed this class of institutions at somewhat greater length than I have given to the others, partly because it is the only branch of the subject with which we, as a society, are directly concerned; and partly because I look upon the want of it as a great deficiency, both in our own educational system and in that of most other countries, and one which is more especially called for by the peculiar features of Canadian society. There is, however, another great difficulty in organizing a comprehensive scheme of national education, to which I have before alluded, and to which I will now return, viz., the second and third classes which I have considered necessary to complete the general plan. They are both intermediate between the primary schools and the universities, and as such are often looked upon as forming one class, but their functions really are very different. If we were imagining a perfect project of national education for an Utopia, I believe we should keep them absolutely distinct, but I do not think that it has been anywhere found practicable systematically to divide them. In older countries, no doubt, some schools have grown up naturally with one special aim, and some with another; but in Canada, where the united classes are so poorly represented, there is no possibility of separating them. In so far as these intermediate schools are designed to complete, as far as it can be carried, the education commenced in the common schools, they have a legitimate claim for State support; but to the extent to which they are preparatory to an extended education in the universities or elsewhere, they may fairly depend altogether, or principally at least, upon the fees of the pupils; and for this latter object, strictly private schools are often resorted to by those who can afford it. But, if we can only expect to have one class of intermediate schools, we must not lose sight of the double duty which they are required to perform, which so materially affects the course of instruction best adapted to fulfil the two-fold object. Each judicious master will be greatly influenced by the different proportions in which the two elements are represented amongst his scholars, but in all cases the course adopted will be a compro-

mise. Some of his pupils will never be subjected to any further teaching, and will never receive any further guidance in their private studies, than they are to obtain from him ; and others he is only preparing and fitting for that higher and more extended cultivation which is to be given them hereafter. In the one case he is completing the edifice, and must fit it, as far as the time allowed him permits it, with everything that is necessary and useful for the purposes for which it is designed, not forgetting a provision for a further extension, if circumstances should render it advisable. In the other, he is principally engaged in preparing a solid and secure foundation upon the general plan of the proposed building, but which may hereafter be finished in a great variety of ways. The architect in two such cases would employ very different materials, and a very different style of workmanship, and the schoolmaster, if he had his choice, would do the same ; but he has very little choice, and he must strive to accomplish the almost hopeless task of making his work serve the purpose either of a foundation, or of a superstructure. A large majority of his pupils will probably go no further in the paths of learning than he leads them, and they must not be sacrificed, because they are the majority ; the rest he is only putting into training for a journey they are to perform under another guide or alone, and it is of such importance that our best men should have efficient training, that they must not be neglected for the herd. If he tries to get round the difficulty by having two departments in the school, the pupils taking some subjects in common, and others in separate classes, it is a plan which becomes very difficult to be worked in practice, and it almost invariably follows that one or other of the departments gets the preëminence, and the other falls into disrepute and is neglected. I knew one school of reputation in Canada which had a Commercial Department as it was called, the distinguishing characteristic of which was that the boys did not learn Latin. They were classed in fact, not by what they could do, but by what they could not do, the absence of Latin overriding all other differences in their ages, abilities, and acquirements ; and they were almost altogether

entrusted to one master, whose distinguishing characteristic also was that he could not teach Latin. To some extent this may, perhaps, be done of necessity in a mixed school, but it will require very careful management to avoid dangerous results. In a strictly private school, or in a school which mainly depends upon its pupils or a private endowment, even though it may receive, according to our system, some small dole from Government, the master or the trustees may, of course, follow what course of instruction they please; and a school even more largely aided by the State, if specially endowed in connection with a university, will naturally look to this connection as indicating its course of study. But if schools of a higher class are established throughout the country as part and parcel of our national system, which I yet hope to see carried out, it appears clear to me that whatever compromise is attempted,—and some will probably be necessary in all cases,—the pupils who look to these schools for finishing their school education ought certainly not to be sufferers. I would go even further, and maintain that in all schools, not specially designed as preparatory to a university, if the masters study the interest of their pupils, those subjects which can be taught with some reasonable degree of completeness ought to be the main objects, and those which are comparatively valueless, unless pursued beyond the period usually allotted to attendance at school, should be excluded, or at least made only subsidiary. The parents have really very little choice in the matter. The majority have never turned their attention to the subject, or are content that their children should be taught as they were taught themselves, and those who have formed an opinion upon it have rarely more than one accessible school, and their choice for their children is between that and none. The usual law of demand and supply hardly affects the school question, in which there is little competition; and education is a plant of such slow growth, that a generation has passed away before you can judge of it by its fruits. It is with the teachers themselves that must mainly rest the decision, as to the course of study best adapted to accomplish the objects sought for by the complex process which we call education.

The important question then arises—What are the subjects which can be gone into with some approach to completeness in an ordinary school course? Fortunately there are many upon which there can be no doubt, which are a necessary preparation for what is to follow, and yet complete in themselves, or of undoubted utility to whatever extent they may have been carried. Of this nature are history and geography, the correct use of our own language, and the elementary parts of mathematics. I say elementary mathematics, because this is not exactly the case with the higher branches. Euclid, Algebra, and Trigonometry, beyond which the subject is rarely carried in schools, are of great practical usefulness in after-life, and have always been acknowledged to afford an excellent intellectual discipline of a peculiar kind, whilst they are a necessary foundation for those who intend to pursue the study farther. But, if you go much beyond this, I am not aware of any special advantage which these higher branches possess as a mental training, beyond those which have been gone through before; and a man must have gone pretty deeply into the subject before he can make any useful application of his knowledge. This, however, is a question for our universities, rather than our schools, and the liberty, which in them is always more or less permitted, of individual selection removes the chief difficulties. The practical point in our higher schools is really whether the devotion to Latin and Greek, which takes up the great portion of the pupils' time, allows them to fulfil that important office in our general educational system which should be occupied by what I have called secondary schools, viz., to complete, as far as can be, the education of that large section of our youth, who do not carry on their school training beyond the average age of 13 or 14, and often very much less. I know that my opinions will be thought heretical, that the traditions of our forefathers are against me, and, as a natural consequence, the prejudices of the existing generation; but I will not shrink from expressing a decided opinion that for such institutions Latin and Greek are not the studies most adapted to bring forward the best powers of nine-tenths of our middle and higher classes.

Let me not be misunderstood. I admit to the fullest extent the merits of these studies, where they can be adequately pursued. I acknowledge the importance of the study of language and its laws, and of grammar, not as a mere collection of arbitrary rules, but as a logical exposition of the modes and processes of thought. No such investigations can be undertaken without a knowledge of more than one language, and the very differences in the degree and kind of development which they had reached, and in the general principle upon which they are constructed, make the languages of Greece and Rome the best adapted of any within our reach, to illustrate what I may call the comparative anatomy of the speech of man. I admit the value of the literature they contain, and the peculiar beauties of the languages themselves, and when we consider that Latin is the immediate mother of half of the modern tongues of Europe, and that both are the foundation of the special languages of almost all sciences, the practical utility of a familiar acquaintance with them can admit of no doubt. Even that minute criticism, in which the accomplished scholar delights, and which it has been sometimes the fashion to ridicule, is a valuable training towards the attainment of precision in expressing, and through that in forming the thoughts. But all this presupposes an accurate knowledge of the languages, or at the least some considerable facility in the use of them. As long as a boy's acquirements do not enable him to do more than, with the help of a dictionary and grammar, to extract from a few short sentences either some sense or nonsense, as he may be in luck or otherwise, he is not in a position to realize any of these advantages; and how many of the lads who leave our Canadian schools have proceeded much beyond this? During my connection with the University at Toronto, I had experience of several matriculation examinations, and I know something of the amount of Latin and Greek with which our grammar schools furnish those who ought certainly to be advanced beyond the average of the scholars; and the result has been to convince me that the great bulk of them must have spent the best years of their boyhood in very unprofit-

able studies. It may be said that our preparatory schools are confessedly imperfect, and that under a better system, as in England, a youth of fourteen or fifteen has often attained to a very advanced stage of scholarship. It would be very hard indeed if some of them at least had not; for if I recur to my own personal recollections, at that age I had been taught at school absolutely nothing but Greek and Latin, excepting so much of ancient history and geography as rose naturally out of the books I had been studying. But even in England the average amount of scholarship carried away from school is not spoken of very highly in the recent investigations into the state of our public schools and universities, and the advocates even of Eton are obliged to rest a large portion of their case upon the merits of the training in cricket and boating afforded, and the social advantages of the system pursued there.

Again I may be met with the objection, that if the actual fruit is small, the cultivation of the intellect by which it was attained had a value of its own, and was fitting it to be exercised upon other objects. There is no doubt that any study affords valuable intellectual training, but what advantages have these special subjects over others, where a larger and more available crop might be produced from the same amount of cultivation? The warmest advocates of the merits of the study of the classical languages in this respect will admit, that it is the manner in which they might be taught, rather than that which has been pursued for generations, which has any special claims upon our admiration. We may find fault with our old dictionaries, which either altogether neglected to trace the origin of the words, or gave fanciful derivations which no moderately trained scholar would now tolerate; but I am hardly better satisfied with a modern elementary school vocabulary which exhibits the familiar words under the strange aspect of what are called their crude forms, as *viryon*, which, whatever authority there may be for it in Sanscrit, resembles no known form of the word, either in Latin or any of its modern derivatives. Our old grammars also are as unphilosophical as can well be conceived; but I

question whether the new ones do not run into an opposite extreme of refining, very proper perhaps for an advanced student, but unsuited to a boy of ten or twelve, whose intellect, though keenly alive to outward impressions, does not lend itself readily to nice distinctions of reasoning. If our former grammars ignored the remains of the old locative and confounded it with other cases, thus giving rise to rules and exceptions which appeared to have no intelligible foundation or origin, a new one is hardly more praiseworthy, which distinguishes (and that, remember, for a mere beginner), five different kinds of what used to be called the genitive case, separated by such subtle lines of demarcation, that Harry's dog and Harry's brother fall under different categories, the one being a possessive and the other only conjunctive. I confess that although I see many marked distinctions between a dog and a brother, I should be rather puzzled to explain to Harry in what the great difference consists in their connection with him, which it is the object of the case to point out. If I were disposed to refine, I think I would make out a stronger case of difference between Harry's dinner, whilst it is still in the dish, and Harry's dinner, after it has been incorporated with Harry himself. In the first instance, it is future and optative, hardly as yet possessive, at least until it is transferred to his plate; in the latter it is perfect, and certainly falls within the meaning of an "inclusive" genitive.

I shall then be asked, would I entirely banish Latin and Greek from our higher schools, and what I would substitute in their place? I would by no means banish them for those who can pursue them till they have attained to some reasonable facility in the use of them. Minute scholarship must always be for the few, but a much larger class may obtain such a moderate mastery over the languages, as to be a source of great pleasure and great usefulness to them in after life. But there is a larger class still, whom it is our duty to educate as highly as circumstances will permit, for whom the amount of Latin and Greek instilled into them has occupied an invaluable portion of their school days, with little if any profit. If we could establish secondary schools as

a separate class, I would exclude Latin and Greek altogether from the general course as special objects of study, though some acquaintance with their forms and grammatical peculiarities would still be imparted in instruction in grammar, just as now a lecturer will illustrate his teaching of the science of language by reference to the Sanscrit the Anglo-Saxon or the Old Norse, of which he himself has probably a most imperfect if any knowledge, whilst his pupils certainly have none, and would have wasted their time if they had attempted to acquire any. But in the master himself I would make a knowledge of the classics essential, for there is not a more fatal mistake, though a very common one, than to imagine that a teacher need only know as much as he is required to teach. Moreover, in such schools there ought to be the means, apart from the prescribed course, of pursuing, if circumstances render it advisable, a study of so much importance.

In so far as we are compelled by circumstances to unite the two objects in one institution, there must, as I said before, be a compromise, and the nature of the compromise will very much depend upon the peculiar situation of the school, and the proportions in which the pupils of the two classes attend it. In all cases there will, no doubt, be a difficulty, but success in any undertaking is only the overcoming of difficulties, and I have too much respect for the abilities of those, whose position entitles them to set an example in educational matters, to doubt that their experience will enable them to devise a method of meeting this one. In some schools it may be possible to have two departments, the pupils taking everything that is common to them together—and this is a great deal—and at other hours pursuing different studies. But for success in this method, there must be no superiority recognized of one department over the other; no suspicion even be permitted to appear, by keeping them apart when they might be united, or by handing them over to inferior masters or otherwise, that those who do not learn Latin and Greek are looked upon as an inferior caste.

There is another way in which the difficulty may be partially met. If the time which is devoted to schooling is too short to enable a lad to learn anything worth remembering of both Latin and Greek, the same time, if devoted to one of them alone, might lead to something better. If we have to choose between the two, Greek is undoubtedly the finer language, and also the easier language to the beginner, being much less elliptical and less artificial in the construction of the sentences, and the ancient literature it contains is both more extensive and of greater excellence, even exclusive of the sacred writings. But Latin embraces an immense literature of more modern times, and it is more immediately connected with our daily wants, with most of the professions, and with the languages of modern Europe. If only one were practicable, most men would select the Latin. Every man who could do it should study both, but it would be better to have made some moderate proficiency in Latin than to carry away, to be soon forgotten, a few ill understood scraps of both; and to use the words of Doctor Latham, himself a distinguished though somewhat eccentric linguist: "One of the few things which is more useless than a little Latin is a little Greek."

Whatever be the method adopted in each case, some substitute must be found for the two subjects which now engross in most schools the chief portion of a boy's time; and there is no doubt that the physical sciences have the greatest claims to succeed to the vacant throne. But here, too, we must constantly have before us the double aim with which any subject is introduced into a school course, and the essential condition that, however far we attempt to go into it, as far as we do go the knowledge must be exact and solid, and that we do not attempt to embrace a range of subjects which would be incompatible with this fundamental condition. The physical sciences may be so taught as to be quite as useless as a little Greek, or even more so; for false ideas may be carried away which may do much more harm than can possibly arise from any misconception as to the force of a Greek particle. But they may also be taught so as to form a most valuable discipline

of the mind, even when the amount of positive knowledge acquired is not very extensive. It takes as long a course of study to form a perfect natural philosopher as to train up a thorough classical scholar, but the separate branches of the one study are so much more numerous than those of the other, that a man may acquire a competent knowledge of some departments of science, whilst he is doing little more than learning the rudiments of Latin and Greek. To recur to a metaphor which I have used before—the same amount of labour which would be necessary to complete the Parliament Buildings at Ottawa, would have built a very considerable town, but if the work were arrested in the middle, the one would be perfectly useless even as a lunatic asylum, into which to put its projectors, whilst in the other case there would at least have been some streets of habitable houses for sane people. This completeness, to the extent to which a subject is carried, is fully as important if we have regard only to the mental training as if we look to the practical use, for precision of thought and knowledge is the essence of both.

But it is constantly objected by those who, without denying the importance of the physical sciences, deprecate the introduction of their study into schools, that we have a class of teachers already trained to make Greek and Latin grammar the engine by which the intellectual faculties of a boy are to be brought out and strengthened, whilst the sciences have been studied more for their own sakes, and not with a view of turning them to the best account as a means of education. They would admit the studies if they were sure that we could find competent masters, forgetting that the art of training by means of the sciences, in so far as it may differ from the same skill in working with a different material, can only be learned by practice, an opportunity for which is denied. The old stage coachman was a well trained individual, and performed his peculiar duties with credit, but if it was found advisable to exchange the stage coach for the railroad car, it would have been a poor argument to suppress railroads until we had as thoroughly practised a class of conductors as the old system could boast.

The real question is, whether the sciences can be made as good a means of instruction as the languages of Greece and Rome, and if that is admitted,—and I for one have no doubt upon the subject,—the best method of applying them may safely be left to the educated men to whom the duty is entrusted.

That the physical and natural sciences are not always taught in schools upon a sound principle, I am prepared to admit; but are Latin and Greek, in spite of the practice of several centuries, invariably studied on a philosophical method? If our teachers of science are not all Faradays and Tyndalls, neither, assuredly, are our grammar school masters all Max Müllers or Donaldsons. That the sciences can be taught so as not only to be a source of delight to the learner, but an admirable means of enlarging his views, and training him to precision and accuracy of thought, the lectures of the distinguished philosophers whom I have named are a sufficient proof; and we can hardly expect that the best methods will be followed, or the best men direct their energies to the subject, until the studies come to form a recognized branch of education in the better class of schools. I rather think that in most of our schools at present, which do admit the sciences into their studies, the pupils are crammed with an array of facts, the bearing of which is very imperfectly understood, and with a string of technical terms connected with still less precise ideas. It is hardly worth while to abandon even the Eton grammar for such knowledge. The thing which it is important to learn, both as a matter of training and even for practical use, is not the facts themselves, so much as the reasons for which we know them to be facts, and the methods by which that knowledge was arrived at. Now, many of these sciences require for their complete mastery the highest branches of mathematical knowledge, and for others extensive museums and costly apparatus are necessary; and as these cannot be available in a school, it is thought sufficient to lay the results merely before the pupil. But though these inaccessible aids were essential to the discoverer of the facts, they are hardly ever—I may say never—necessary towards making the method he

pursued perfectly intelligible, and it is to this phase of the subject that attention should be almost exclusively devoted.

Thus, if the subject be astronomy, the pupil in our ordinary schools has probably learned a tolerably correct abstract of what may be called the statistics of the solar system. He can enumerate the planets in their order, with their relative distances, number of attendant satellites, &c., and he can talk glibly of centripetal and centrifugal force. Now this is a very barren knowledge, even if he had not entirely misapprehended, which it is ten to one he would do, the real meaning of centrifugal and centripetal force. But it is quite possible to make a boy, with the most elementary knowledge of mathematics, or even with no mathematics at all, strictly so called, to comprehend how we came to know these things to be facts. And even if you can go further into the niceties of the science, and explain the planetary perturbations, although the calculations themselves require the most refined analysis, which neither the teacher nor the pupil can comprehend, there is a thread of common sense running through the whole, which would enable a boy of quick apprehension to understand how the disturbances can be traced, and how they must necessarily produce effects of the kind which are observed. If the subject be chemistry, no elaborate apparatus is necessary to exhibit numerous interesting experiments, and to explain the leading principles of the science, and to shew how, with better appliances, we might produce results which cannot be repeated in the school-room. If the subject be botany, you want no extensive museum. The unrivalled collection of nature is always at hand. But it is of no use to learn from books the definition of a petal or a stamen, or the principles of the classification—the student must see and handle the separate parts of the flowers, and must classify them for himself.

In a word, in the elementary study of all sciences, the main object should be not to store the student's memory with facts which others have discovered, and with principles which others have established, but to lead him to discover the facts, and to establish

the principles for himself, and to impress upon him the methods by which he may find out more. It is with this view that the history of science becomes such an important part of its study. You thus trace out the gradual increase of knowledge, how the discoverers rose by degrees from isolated facts to general laws; you see their failures as well as their successes, their mistakes as well as the truths they established; and the student can realize how he, with time and opportunity, might have gone through the same course, and what were the qualities essential to success.

As thus studied—and they might be thus studied—I cannot imagine a more wholesome training than the sciences afford, and not only an intellectual but a moral training. The pupil learns not only how to observe, how to compare things both in their resemblances and in their differences, to classify them according to the various features they exhibit, to draw general conclusions from the examination of particular facts, to exercise his judgment when several possible solutions of the difficulty present themselves, and to form a proportionate judgment based upon the weight to be attached to the different views, and to reserve his opinion if the arguments do not appear decisive. He not only does this, but he learns also to restrain his imagination, to distrust his prejudices, and to resist the temptation of twisting his facts to suit his expectations or his hopes. He is emphatically a searcher after truth, and he learns from the example of other conscientious explorers how every prejudice, every theory, every aspiration of ambition and hope of profit can be sacrificed at the shrine of the great principle which is the object of his search.

There is another view of the subject, which strongly commends the physical and natural sciences as objects of study in youth. If there is any one quality which is a more universal characteristic of children than another, it is their inquisitiveness. From infancy upwards, hardly an object can be presented to their minds but their curiosity is excited, and they wish to know the meaning of it, and the reason and object of it. Every parent must have frequently been puzzled how to answer such queries, and has

probably replied somewhat to the effect that the answer would be beyond the comprehension of his interrogators, whereas if he had spoken with perfect truth he should more properly have said, that he did not know himself, or at least not sufficiently to give a clear and intelligible answer. He had probably asked some such question himself in his childhood, and had been similarly put off; and the age of inquisitiveness had passed by before he had an opportunity of otherwise satisfying himself. Now it is the function of the sciences to discover the true answers to nine-tenths of the questions relating to the material world which children do ask, and shall we say that we will refuse them answers on subjects, with respect to which it is the natural bent of their minds to be inquisitive, and concentrate all their energies upon the elucidation of the principles of grammar? I have had many difficult questions put to me, but it never occurred to me to be asked what was the peculiar difference in the force of the genitive in the two expressions Harry's brother and Harry's dog, and if it had happened, I am afraid I should not have given a satisfactory answer. Everybody can appreciate the different zest with which a study is engaged in, which falls in with his natural turn of mind, as compared with one which is forced upon him *invitâ Minervâ*, and for this, if for no other reason, the sciences form a most appropriate study for the young.

One thing, however, I hold to be certain, that however their introduction may be resisted, they will undoubtedly, in the end, take the place to which they are entitled. They have already forced themselves into the universities, and their introduction into the schools must follow. Education is not an abstract idea, and the best system cannot be decided upon the first principles of human nature, and be declared to be immutable and equally adapted to all ages and all countries. It is the process of forming a man to fill the place, which he is designed to occupy in the society which surrounds him, and as the characteristics of that society change, in accordance with the law of constant movement which pervades everything human, his duties, his wants and his

aspirations will change also. The education, which was the best for one age, will be unsuited to the requirements of another. In ancient Greece, the speculative tendency was largely developed, and practical excellence was chiefly in the direction of art. In neither direction have they ever been surpassed. Phidias is still unrivalled, and the logic, the pure geometry and the metaphysics, which they elaborated for themselves, have descended to us with hardly an addition in two thousand years. Rome received its civilization from Greece, and followed it *haud passibus æquis* in its favorite subjects of intellectual culture. But Rome also created for itself another science, arising out of its own peculiar constitution of society—the science of jurisprudence—which formed an essential principal part of the education of every Roman, and which has descended to us as one of the most perfect efforts of human intellect. During the middle ages, all learning was embraced in the Latin language, which was the means of intercommunication between all nations, and when a knowledge of Greek began to spread, besides its importance to theologians, its literature was found to contain so much of the prevailing studies which was imperfectly given by its Latin imitators, that there is no wonder that it also became acknowledged as an essential subject of education. But another age succeeded, in which the physical and the natural sciences rose up, and are daily rising in new developments around us, and the languages in which they are presented to us is no longer Latin and Greek, but English, French and German. Shall we say that, whilst the world has advanced, and our grown men are engaged in the pursuits of the nineteenth century, our youth are to be confined to the studies of the fifteenth and sixteenth? What was a necessity with them is no necessity with us, but a new range of subjects has arisen, and the training of our youth must follow in the direction to which the spirit of the age points. We need not indeed abandon studies, the excellence of which has been tested by the experience of past ages, but neither must we ignore those which are commended to us by the practice of our own. The Romans did not the less

value the philosophy of Greece, because they added to it a science of which Greece knew little; neither need we neglect the old studies because we find it essential to make room for the new. But the old must no longer be exclusive. They must be content to divide the empire with their younger brethren, and the advocates of the time-honored classical languages would do well to consider, that if they do not willingly admit of an associate, they may before long find themselves displaced by an usurper.