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# The Canada School Journal.

VOL. IV.

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## The Canada School Journal

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### TO ADVERTISERS.

The SCHOOL JOURNAL is now the best medium in the Dominion of Canada for reaching Teachers and Trustees. As a proof of the rapid increase of its circulation 1700 NEW SUBSCRIBERS were received from Nova Scotia in January, and 550 FROM NEW BRUNSWICK in February.

—We are indebted to Miss E. Peabody of Cambridge, Massachusetts, for kindly forwarding the article on the Kindergarten which appears in the present issue. Although seventy-four years of age, she with her sister, Mrs. Horace Mann, are still zealously leading the van of American thought on this important subject.

—We insert the communication of Mr. Ireland, regarding the "29th Clause," not because we have any sympathy with his opinions, but because in this as well as on all subjects of importance to Teachers, Trustees, and other School Officers we desire to allow the fullest discussion.

—Michigan University has followed the lead given by St. Andrews, and has established a professorship of "The Science and Art of Teaching," with W. H. Payne, M.A., late superintendent of schools at Adrian, Mich., as its first incumbent. Doubtless other universities in America will follow Michigan.

—At the last meeting of Toronto Teachers' Association it was resolved, "That in the opinion of this association, the elements of some branches of Physical Science should form part of the curriculum of students for candidates for all classes of teachers' certificates." Over four thousand of the teachers in Ontario hold only Third Class Certificates. They were not required to pass an examination in any department of physical science in order to obtain their certificates. Physical science has a place on the programme of studies in public schools. How third-class teachers teach it is a mystery. Leaving out of consideration altogether the amount of useful practical information received in the study of these subjects, it is worth remembering that the physical sciences afford the best means for developing the observant faculties of the rising generation. On this account if for no other reason, they should have a strong claim for recognition on the programme of studies for teachers'

certificates of all grades. In this connection it might be well to mention the desirability of founding school museums of natural history, botany, geology, &c., in connection with public as well as high schools. Such collections increase the interest of pupils in all school work, and contribute no small amount of knowledge and experience to those who aid in establishing them. They also turn the attention of many young minds into channels that are unquestionably beneficial, and enable them to spend with profit to both physical and mental natures, many an hour which would otherwise be thrown away in idleness.

### LORD LORNE'S EDUCATIONAL UTTERANCES.

Although Lord Lorne lacks the easy grace which was characteristic of Lord Dufferin's eloquence, yet he has spoken wisely and well on educational topics, as they have been brought before him in the various addresses presented. We all remember, too, the graceful words of wisdom and counsel which were uttered by the Princess Louise to the ladies of Montreal shortly after her arrival there, on matters of practical education connected with their sphere and duties in life.

From the remarks of Lord Lorne on kindred topics, it is clear that he has made our educational system a subject of study, even before his arrival amongst us. This was obvious from his remarks in regard to it in one of his early replies to an educational address presented to him at Ottawa. He there spoke of the impression which the educational displays of Ontario and Quebec had made upon his mind at Paris, and pointed out what he believed to be the main features and general purpose of the comprehensive scheme of education for this country which he saw illustrated at the great exhibition there.

In his recent utterances at Toronto and London, the same idea as to the scope and object of our educational system appears to have been uppermost in his mind. In this view he was incidentally strengthened by the strong words used in many of the addresses presented to him, in which laudatory references were made to our educational system as a whole. Thus, for instance, in the address at Whitby, His Excellency was gravely informed that in the single county—not Province—of Ontario, there were "three colleges, two model schools, four high schools;" and that the county was "dotted in every direction, with well furnished public school houses."

We do not mean to say that in the opinion of the writer of the address this strong statement was not substantially true, according to our somewhat loose Provincial ideas of "well furnished" colleges, model, high and public schools; but we do say that the statement was quite an exaggeration, so far at least as it referred to rural schools in the country—scarcely one of which is yet anything like "well furnished." That the con-

trary idea was conveyed may be gathered from the impression which the statement clearly produced on the mind of the Governor General. In his reply he evidently applied an English standard to the institutions to which reference had been made in the address, for he said :—

"In the admirable schools, colleges, and Universities to which you allude, you have a decided advantage over newer Provinces, for any one who comes here, be it from England, from Ireland, or from Scotland, may be sure that he can send his children to institutions which are the counterparts of those he would have chosen for them had he remained at home. Nowhere is the student better furnished with the means of making his way in life."

While we cannot but feel the full force of the compliment intended to be conveyed by the utterance of such language by so high an authority (even if applied to the whole Province, and not to a single county), yet we feel that we do not deserve it, even as a Province; and that our Whitby friends have, we trust unwittingly, betrayed the Marquis into the expression of an opinion which is scarcely borne out by the facts of the case.

On the other hand, we are pleased to notice that the educational address at Cobourg and the address at Belleville were in marked contrast to that at Whitby. Indeed the educational address at Cobourg was singularly cosmopolitan in its character. It elicited an equally excellent reply, in which the Marquis touched upon some of those more general and yet practical points which we do not always sufficiently appreciate or consider in connection with our general system of education. He said :—

"You have been so good as to allude to the interest the Princess feels in art, as well as in other branches of education. She rejoices with me to find that art and science have by no means been neglected in the university training in this country. If science teaches man how far he can raise himself in obtaining mastery over the forces of nature, art will teach him how best to use the power so acquired. In these studies, as in all, the student will find that he must labor at the elements of knowledge to be successful. It is, perhaps, peculiar to Canada that in many branches of study the teachers at the University have some of the initial labor devolving on those who have to ground the youth of the country, in knowledge, spared them; for the excellent system by which higher schools are spread wherever there is a considerable population ensures that crude ignorance is not here, as it often is at home, to be seen exercising the patience and consuming the time of a university teacher. The high standard attained by your universities is seen by the attraction they possess for other than Canadian youth, and I do not doubt that among the influences it is your duty to implant by your teaching, you find that it is not difficult to induce your American students to join in respect for authority, when that sentiment is embodied in a loyal feeling towards our Queen, of which you have been the eloquent exponent."

In these remarks we may, however, say that the Governor General has over-estimated two things: First, the presence of "American" (so-called), or United States' students in our universities, and secondly the absence of ill-trained students in these universities. In both of these matters the Marquis has been misinformed: American, or United States' students, do not frequent our universities; and secondly, students in the universities have, in several cases, been refused advancement owing to the fact that their bad spelling and general lack of literary culture prevented it. We are, however, improving in these respects.

## Contributions and Correspondence.

### RIGHT VIEWS OF THE TEACHER'S OFFICE.

BY JOHN B. ADAMS, ST. GEORGE, N.B.

Some one has truly said that the future welfare of a people depends upon the character of its mothers and its teachers. A great writer says: "The government that is superior to the people will be brought down to their level; the government that is inferior to the people, will be brought up to their standard." Many of those who are to be the future legislators and rulers of this country, and upon whom its future happiness may depend, are at present attending the common schools. They are therefore under the direct influence of the teacher a great part of the day, for five days in nearly every week, for the greater portion of the year. The teacher is therefore in a position to be a very powerful moulder of character and public opinion. Until these truths are recognized, and right views of the teacher's office entertained by our people and teachers, the profession of teaching in this country will never take its appropriate place, and Canada will never reach its highest degree of prosperity.

It is a gratifying fact that there are many school districts in New Brunswick, which are realizing the situation, and sustaining first-rate schools. Other districts are also exerting themselves for the establishment of good schools. However, there are yet very many places where the people are more willing to pay their money for anything else than for the education of their children. Their tailor must be a workman, their shoemaker a workman, their hostler a workman; but the instructor of their children must—work cheap. To obtain a second-class teacher's license in this Province, most young men require to attend school from five till eighteen years of age, and most young women from five till sixteen years of age, and then to spend nearly six months at the Provincial Training School, at their own expense for board, books, &c. To procure a first-class license, at least one additional year's study is necessary. After all this outlay of time and money, they are expected by many persons to work for less pay than that received by a labourer or domestic. It is hard even for a teacher to keep his patience discussing school matters with some people. A few weeks ago I was conversing with a farmer. He is a "well-to-do" man, and would no doubt feel very much offended if he were not regarded as a man of intelligence. Here are his very words:—"I don't think school teachers should get as much pay as hired help. They don't work nearly so hard. They work but six hours a day, and only five days in the week. Then, their work is easy enough. Who couldn't boss children round, and give them a clout aside the head if they didn't mind? I'd half kill them. School teachers have good easy times, and are far too well paid." This man's idea of education does not seem to be much in advance of that of the African chief who declared his intention of sending his son to England "to learn to read and write and be great rogue." How strange it is that some people evince excellent judgment in many things, and act with so little common sense in regard to education. It never occurs to them that a child can be only once a child, and that the duties devolving upon his preceptor at this critical period of the little one's existence are of the utmost importance, the instruction imparted may be everything for time and eternity. George B. Emerson, in speaking of education, has said: "The prevailing opinions in regard to this art are such as the common sense of mankind and the experience of centuries have shown to be absurd as to every other art and pursuit of civilized life. To be qualified to discourse upon our moral and religious duties, a man must be educated by years of study; to be able to administer

to the body in disease, he must be educated by a careful examination of the body in health and in disease, and of the effects produced on it by external agents; to be able to make out a conveyance of property, or to draw a writ, he must be educated; to navigate a ship, he must be educated by years of service before the mast or on the quarter-deck; to transfer the products of the earth or of arts from the producer to the consumer, he must be educated; to make a hat, or a coat, he must be educated by years of apprenticeship; to make a plough, he must be educated; to make a nail, or a shoe for a horse or an ox, he must be educated; but to prepare a man to do all these things, to train the body in its most tender years, according to the laws of health, so that it should be strong to resist disease, to fill the mind with useful knowledge, to educate it to comprehend all the relations of society, to bring out all its powers into full and harmonious action, to educate the moral nature, in which the very sentiment of duty resides, that it may be fitted for an honourable and worthy fulfilment of the public and private offices of life—to do all this is supposed to require no study, no apprenticeship, no preparation!

It is to be regretted that many teachers are to blame for the indifference of public opinion to the claims of education. Now, I am glad to be able to say that there is a large number of teachers who are deeply interested in their work, and actuated by an earnest desire to become true artists. Many such noble workers there are, some of whom are toiling alone in isolated districts with scarcely a person whose tastes and inclinations are similar to theirs, and with few to sympathize with them. Courage, brave hearts, wider and greater fields will yet be thine. It does one good to meet such a teacher. With what a thrill of delight he grasps the hand of such a man or woman! How it refreshes him! It gives him new life and vigour, and sends him to his own school-room a new man and a better teacher. Its effects are also imparted to his scholars, and they enter into their work more cheerfully, energetically and earnestly. But there are not a few whose hearts are not in their work. These latter evince no energy, no earnestness, no enthusiasm. They never introduce anything new to their pupils. They go through the same routine of duties day after day. They are machine teachers, and the exercises of their schools are miserable, dull and lifeless. They are, as Page says, "false" teachers, who without study or forethought enter upon this delicate business of fashioning the human soul, blindly experimenting amidst the wreck of their heaven-descended material, maiming and marring, with scarcely the possibility of final success—almost with a certainty of a melancholy failure! There are others who enter the profession for the mere purpose of earning sufficient money to enable them to prosecute their studies for what they consider a higher calling. A higher calling! As if any occupation in the world could be higher! Can there be any nobler work than to turn up the yet unbroken soil, and to sow the first seeds? Is the teacher's duty nothing? Is it nothing to hold in his hand a chain of communication linking his mind, not merely with many other minds, but with all the minds that through all time shall ever be influenced by those who received their earliest impressions from him? Is it no special honour to be the servant of the feeblest, the most inexperienced, and the most helpless—to stand at the portico, as it were, of the temple of God, keeping the house and guarding it from pollution? That was a beautiful saying of Dr. Dwight, "He that makes a little child happier for half an hour is a co-worker with God." There should be no higher type of manhood than the ideal teacher. He should cultivate a love for the beautiful, and for colour, form and music. He should be brave and tender. In every storm of life he should be oak and rock, but in sunshine he should be vine and flower. There should be no gentler, kinder, stronger, manlier man. He should have a con-

science void of offence, a face that never turns pale at the accuser's voice, a bosom that never throbs at the fear of exposure, a heart that might be turned inside out and show no stain of dishonour. "Be a whole man at everything," was the advice of a celebrated Englishman to his son at school. It is the lack of this *wholeness* that makes so many poor teachers. A teacher should love his work, and overflow with a deep and burning enthusiasm. He should throw his whole self upon his work. He should pour into it the whole stream of his activity—all the energies of his hand, eye, tongue, heart and brain.

## OBJECT AND AIMS OF TEACHERS' ASSOCIATIONS.

BY DAVID J. JOHNSTON, COBOURG,

(Late President of the Teachers' Section of the Provincial Association.)

I propose to take a rapid glance at a few of the objects to be gained by our association. And first of all let me say that one important object is to foster the principle of association itself. Our work as teachers is a great one. The warfare in which we are engaged is no easy conflict. Raw material in the shape of untrained intellects is placed in our hands. Out of that material we have to fashion men and women. Forces antagonistic to success are operating against our endeavors, and it is our duty to educate wills to overcome them. In a single word our work is the making or unmaking of the nation that is to be. And in that work we should feel ourselves to be not single marksmen here and there, but soldiers in a united army. Then will more effective work be done, and even the weakest will become courageous, even the faltering be made the daring. Everywhere do we see this principle in operation. Nations are calling nations together in congresses in order to determine the affairs of a continent. Churches are meeting churches in evangelical alliances in order to secure united effort in common Christian work. Of all the highest developments that the centuries have brought with them in their march none is more characteristic of our epoch than this principle of association for united effort.

In the second place, such an association as ours should evoke *mutual sympathies among ourselves*. We are engaged in a common work, have common difficulties, common motives, common aims, and common results. The reproach of professional jealousy has too often been thrown in our face. And so long as we are isolated fragments of one great whole, standing and working apart, so long will each be incomplete. Never will true harmony be evoked till all the fragments are united, and we stand shoulder to shoulder, a common life permeating the mass. Each will then realize that when one member suffers all the members suffer with it, then will each feel the poet's aspiration as he exclaims "we are brethren all."

But, in the third place, such meetings are certain to create a *professional pride and that standard of professional honor* which is absolutely indispensable to our existence as a body of teachers. True, we are citizens; true, we are members of society; but at the same time we are teachers, and as such we have a community of interests, just as completely, and even more completely, than have farmers, millers or manufacturers, lawyers, doctors or clergymen. And it is but right we should recognize this, and recognize too that we owe a duty not only to ourselves and our pupils, not only to the parents and the state, but also to the profession as a profession. I know of nothing that will more fully cultivate this than a teachers' association.

And lastly, in this connection, such associations will rouse in the teachers professional enthusiasm. In all branches of industry, trade

and commerce, as well as in every profession, it is all that we have before mentioned, forced to the white heat of enthusiasm, that wins the victory. And it is so in our profession as well. Other things being equal, the enthusiastic teacher is the successful teacher. To stir this up nothing is equal to well-conducted meetings such as this. Well do our politicians understand this truth, and we may profitably borrow a page from their practice in this respect.

But association, sympathy, professional honour, enthusiasm, belong to the region of that intangible something we call feeling—that something which is as powerful and as evasive on being searched for as life itself. But in the region of the tangible, that which may be seen, can be duly weighed and measured, our aims are just as clearly defined. The first I would mention is *obtaining a voice in the regulation of our schools and school system*. There is no man knows a business so well as he who is engaged in it. And as teachers we know or should know our own work best. We can have no interest antagonistic to the welfare of the community; indeed our success depends upon that welfare. Therefore we have not only a right to a voice, but it is to the interests of our schools and their patrons that we should have such a voice in the regulation of our school machinery. For the last ten years we have exercised such an influence, and that power is ever on the increase, owing simply to the increased efficiency, more complete representation, and more thorough affiliation of our teachers' associations.

In the second place, we meet for the purpose of *intellectual improvement*. In our several stations we can, through the universal medium of books, improve our time and train our intellects, but it requires something more than that to fully educate a man. Compare our farming community with our merchants or even with our mechanics. The best of them read as much and think as deeply, but they lack that concentration of thought, that readiness of speech, which can only be acquired in the contact daily and hourly of man with man. This indeed in many cases is the only education worth the name—the education of circumstances. Therefore do we need to meet frequently together as those engaged in the same profession, and our meetings, if rightly conducted, cannot but tend to sharpen our intellects, educate our faculties, concentrate our energies—in a word, throw us with a great impetus forward in the path of intellectual improvement.

In the third place, such associations tend to the *mutual improvement of character*. As teachers, we are apt in our own little world to act the part of autocrats. And such is the independence of action and belief, that too soon we delude ourselves into the opinion of our own partial infallibility. With none to contradict our orders, we are prone to consider our own *ipse dixit* as part of that sum and substance of eternal life. We are confirmed in our errors, and our character is developed in the direction of our foibles from constant repetition, just as the right arm of a man becomes powerful from continual use. Our character is apt to become dogmatic, to be full of straight lines and right angles, to partake more of the nature of the crystal than of the polished sphere. Such meetings as the present serve to wear off the edges and angles, to polish to smoothness the surface, to erase the idiosyncracies and foibles, and to teach us lessons of self-knowledge, all of which must tend to improvement of character.

And lastly, I would mention the *inter-communication of technical knowledge*. The distinction between technical and general education is in our day becoming more clearly recognized. In a lecture delivered in December, 1877, before the Institute Union, Professor Huxley defines technical education as "that sort of education which is specially adapted for the needs of men whose business in life it is to puruse some kind of handicraft." His definition you

will see is defective, for our work requires a technical education too, and our work is scarcely a handicraft. Yet it requires careful and skilful handling, for it is the manipulation of brains. There are modes of instruction and methods of teaching more approved than others, and in associations such as this, those of us whose experience is the greatest, should be ever ready to communicate to those of our followers who are but entering the profession. The importance of this technical, aside from the general knowledge, has long been recognised in our school system by the presence of Normal Schools, and has more recently been brought into special prominence by the establishment in almost every county of Model Schools. But even after entering on their life work, teachers will find in the lectures, the essays, the instruction, the descriptions of different modes of teaching, and the discussion of our respective systems in teachers' associations, a valuable aid in the acquirement of that technical knowledge and skill which in our profession, as in every profession in life, are absolutely indispensable to success.

### NECESSITY FOR SELF-IMPROVEMENT IN TEACHERS.

BY MARY HELEN LORING, FREDERICTON.

A teacher should never consider his education complete. We are apt to think, when we have mastered those subjects necessary to obtain a license, that we have done our duty to ourselves and others, and that our education is finished; but in reality we have then only learned enough to show us, if we are thoughtful persons, how meagre our supply of knowledge really is.

It is humiliating to state—but it is a fact nevertheless—that comparatively few of our teachers are well acquainted with any branch of knowledge outside of those required by law; and some even consider themselves remarkably clever to have gained this required amount of information. This is really degrading. One who only learns what he is forced to learn in order to gain a livelihood is certainly unworthy of the name of teacher.

One of these persons will pass the Board, receive his license, and go into the country to teach. Probably the education of those with whom he comes in contact is less extensive than his own; he is looked up to as a person of extraordinary learning; and by-and-by begins to regard himself in this light; and as the intellect must ever be ascending or descending, he gradually sinks to the level of those by whom he is surrounded.

He has passed his examination, and so he does not take the trouble to master those subjects which may, from time to time, be added to the syllabus; he does not endeavor to acquaint himself with the views of contemporary educationists, or to have any of his own; and so he performs his work, day after day, in a mechanical manner; and by-and-by getting behind the times, he is spoken of as one of the "old teachers," and is obliged to go farther and farther back into the country to make room for the "new teachers," and to reduce his salary in order to secure any situation.

Now, if he had been a genuine teacher, the fact of his being one long in the service would only add to his qualifications, and he would never be classed as one of the "old teachers;" but not only has he fallen behind the times, he has even lost the professional knowledge with which he began.

There are several reasons why many teachers fail to become educated persons. With some it is total inattention to study; but there are those who even pretend to set apart a portion of each day to study, and yet who never make any advancement. This, in a great many cases, is because they take their allotted time for study

immediately after school, in order that they may spend their evenings in idle amusement and their mornings in indolence.

Very few need to be told that mental labor should be performed when the intellect is most vigorous; but many do not seem to realize that five or six hours in school is a strain upon the mental powers and nervous force, and that they are incapable of acting vigorously immediately afterwards.

Another great obstacle to improvement is the vast amount of worthless literature in circulation at the present time. One may spend the greater portion of his time in reading and be no better, and probably much worse, both morally and mentally, at the end of the year, than he was at the beginning. A person whose intentions in this respect are really good may have poor judgment in the selection of reading matter; but a taste for good reading may be cultivated, if we make up our minds to lay aside at once all that is sensational, and force an interest for that which we know we ought to read. No matter how inexperienced we may be, we all know of some books the reading of which would benefit us; and after we have made ourselves acquainted with these we will hear of others. But even should we take up a book of which we have never heard, we should be enabled to form an estimate of its contents by reading the introductory chapter.

Besides professional and general reading, the teacher should pursue some particular study until he has perfected himself in that branch. But a mistake may arise here. When we think we understand one branch thoroughly, we are apt to take up another of a similar nature, and which will tend to develop the same faculties. Now, the person who exercises one set of faculties, and allows the rest to remain dormant, is certain to become one-sided, and is too often unconscious of this fact; e. g., a man who has studied classics exclusively will, in common conversation with people who he knows understand no language but their own, use Greek and Latin phrases, and make quotations from authors of whom he knows his auditors have never heard; therefore, after we have gained a pretty thorough acquaintance with one subject we should take up another of a different nature. The constant pursuit of one subject is very well for those whose profession requires only one branch of knowledge; but a teacher's information should be general, and, above all, it should be thorough and practical. It is necessary that we should read the works of eminent educationists of past times; and we should read educational journals to make ourselves acquainted with, and to profit by, the experience of contemporary teachers. But these should only suggest to us ideas upon which to found our methods; for if we are real teachers we will not follow any one's rules, or accept in whole any one's ideas; we will have our own, and we will not accept any statement which our own judgment does not force us to endorse.

But to return to my subject: I will mention another reason why so many of us fail to improve; and that is, the temptation of our positions. The majority of us must teach at a distance from our homes. When we go among strangers, we will, if we are at all socially inclined, make the acquaintance of many of our own age, among whom we will probably meet those who are gay and thoughtless, and we will be tempted to spend our time in such a way as to be of no benefit to ourselves or others. This is decidedly foolish, if not wrong; and the time will certainly come when we shall see the folly of such a course. I do not mean to say that we should not enjoy ourselves; but we will find in the end that that amusement which we take as a recreation is more enjoyable than that in which we might spend the greater portion of our time.

A great many may think that I have put a low estimate on the teacher's general knowledge and ability, but this is not the case. Those whom I have mentioned are not the teachers whom we hear

at institutes, entering into discussions, and boldly expressing their opinions; they are not those who have had a thorough education before entering the profession, but they are those who had very little more than the knowledge required in order to obtain a license; and I believe that at least one-third of our teachers come under this head.

I have heard teachers who had been years in the service acknowledge that they had forgotten nearly all the professional knowledge which they had upon entering it, and which they had received in one term at a Normal School. They surely had not been teaching all those years; they had only been doing mechanical drudgery. A teacher spending his time in such a manner was not only weakening his own intellect, but he was stunting those which he should have been endeavoring to develop.

## THE KINDERGARTEN.

### THE VALUE OF THE SYSTEM IN EDUCATION.

*An Address by Miss M. S. Devereux, at the late American Froebel Union, held in Boston.*

In this article I shall endeavour to make—firstly, a fair statement of the results obtained through the Kindergarten teaching as I have seen them to be from my own experience with its pupils; secondly, I shall endeavour to show that these results are the logical and inevitable results of Froebel's system of education when it is properly followed by a well-trained and capable teacher; and, thirdly, I have tried to refute some of the most common objections made to the Kindergarten, and to offer a few words upon the importance of Kindergarten training classes, not only for teachers, but for all the "sweet girl graduates" who are to assume more fully than before the duties of daughters, sisters and mothers in their own households.

My thoughts never return to the Kindergarten without a thrill of rejoicing in its promise to children, for in it each little one develops into such a reality of individuality that it becomes an independent worker with hands and brain. No longer an idle, passive recipient of accompanied things, it grows into a builder and projector of new efforts. As a consequence, it is no puppet pulled by a string from the teacher's desk, but a soul that more and more grows as God must have meant it should grow when He endowed it with faculties and instincts alive to every influence in the world, without and within. Graduated from a true Kindergarten, a child rejoices in an individual self-poise and power which makes his own skill and judgment important factors of his future progress. He is not like every other child who has been in his class; he is himself. His own genius, whatever it may be, has had room for growth, and encouragement to express itself. He therefore sees some object in his study, some purpose in his effort. Everything in his course has been illuminated by the same informing thought; and therefore, with the attraction that must spring up in the young mind from the use of material objects in his work, instead of a weariness, his way has been marked at every step by a buoyant happiness and an eager interest. Any system that produces such results is educationally a good system. But when you add that all this has been done so naturally and so judiciously that the child has derived as much physical as mental advantage, and an equally wholesome moral development, who can deny that it is superior to any other yet devised or used, and that, as such, it is the inalienable birthright of every child to be given the advantages of its training?

In our country's constitution it is written that in the pursuit of life, liberty and happiness no man shall be called upon to submit



to the tyrannies of another's will ; but God has written it upon the soul of man and on the face of nature everywhere, that in the pursuit of life, liberty and happiness, no child's nature shall be subjected to the tyrannies of prejudice, ignorance or carelessness, for "inasmuch as ye have done it unto the least of these my little ones, ye have done it unto me." Have parents, therefore, in the view of their responsibilities—has the State, has any one claiming the name of teacher, the right to dismiss such a subject with a superficial inquiry into its merits ?

I have said that the physical nature is strengthened by this system. Froebel, wise and good man that he was, knew that a mind howsoever brilliant was led, bound and captive, by a sickly body ; and being not only an enthusiastic teacher, but a lover of children, he planned the games as well to strengthen and develop the body as to interest the mind and train the will. And, with a wisdom and economy of time and force rarely mingled, he made the converse of this fact true. Each game has some lesson of wisdom, love helpfulness, or some other good thing, to teach the little heart, while it is a most carefully adapted system of gymnastics—while, to make its ministry more perfect, it is made to alternate with some occupation which requires more or less the quiet and restraint of the body—thus observing not only the most prominent law of growth, which is motion, but the equally incumbent law of recuperation, which is rest or change. There is but one conclusion to all this—if you observe the laws of development in nature you obtain natural development, which is health, strength and vigor for the whole creature.

It has been clearly demonstrated to me during the years in which I have had a Kindergarten department attached to my school that the moral effect of this system is no less remarkable. Under its tender leading its happy occupations, its unfolding of the intellectual powers, its strengthening of the body, its social intercourse—in fact, its judicious development of the whole nature—the young soul recognizes its proper elements of growth and seizes them eagerly. Busy children are happy children, and happy children are good children. And a spirit confirmed in good habits by daily practice of them is armed against the wiles and temptations of the wider life into which it is growing. I have seen the spoiled and petted child of wealthy parents, who at first, out of pure perversity, refused to take any part in the Kindergarten work, so moved by simply being allowed to sit and watch the others, that at the end of the first week it became one of the most eager, obedient, polite and gentle of the whole school. I have seen greed and selfishness so rebuked by the prevailing spirit of generosity that it became necessary to restrain its giving. I have seen falsehood so put to shame that it dared not enter the charmed doors, fretting turned to cheerfulness, and rebellion to obedience and love. I have seen the pale cheek take on the hue of health, the stooping shoulders grow erect, and the whole body lithe and graceful. I have seen the mind so awakened, guided and quickened that it was difficult to furnish to it sufficient occupation. The usual school work for that age became play, its terrors and difficulties all banished by the good fairy, Kindergarten. In my own classes the Kindergarten graduates, without the least urging, did two years' work in one, and did it better than those who had not had their peculiar training. The habit of interested attention to what they were doing was so confirmed in them that they learned very quickly. The finding a purpose and pleasure in their occupation followed them to their books, and they asked for extended lessons as for something they desired. Their habits of careful observation and application made them seize ideas with remarkable rapidity and clearness, and at the same time their social and moral natures were so influenced that they were much more amenable to the rules and regulations of the

school. Such, in general, are the results to be derived from the Kindergarten.

In the ideal Kindergarten the child has a plot of ground to cultivate which he may call his own, and there all manner of educational influences must be brought to teach him ; but, because all climates do not permit this, and because all the natural types cannot be collected for the child to use, the manufacturer furnishes them in various materials, such as wood, paper, etc. These manufactured forms represent, among others, the elementary geometric forms of the cube, cylinder and ball, and it is with these simple objects that the child of three begins its explorations into such fields of observation as Tyndal, Huxley, Agassiz, and other intellectual giants, have opened with minds of maturer powers. And I dare prophesy that much of the labor which puzzles them and us would seem but the A B C's of understanding, instead of its grammar and accident, if the Kindergarten had only been the universal primary system of instruction for the last century.

Day after day the child handles and studies the ball, until its shape, color and various qualities, with all their outreaching associations, are clearly and permanently a part of his mental consciousness. And, after he has exhausted the teachings of the various Kindergarten material, as most children will do pretty thoroughly in the four years of their investigations, I think there will remain few geometric definitions or simpler arithmetical combinations, even through fractions, that will trouble him beyond an easy conquest. One of the most beautiful and wonderful facts of the Kindergarten system is the manner in which each succeeding object which falls under the child's observation enforces at some point the lesson learned from the last, so that there is no break in the chain of thought, although each link is sufficiently unlike all others to give variety and progression. The logical development of the mind, and, indirectly, the respect for absolute truth, are the inevitable results from these combined influences. What better could be given to the children, either for their present or future welfare ?

If the Kindergarten excelled other methods in no other point than this, that it gives to the child objects adapted to its age, and with which it is fitted to cope, all thoughtful students of educational methods would say that set it far beyond all the old systems. But, besides, the deadening routine, such as characterizes all other methods for young as well as old pupils, has no place in the Kindergarten. A wise and tender sympathy with the child, the child of the moment, governs the whole, and the true Kindergarten teacher is ready to change her plan if, by so doing, she can use an accidental occurrence, or some unexpected glimpse into the mind of the child, to teach a lesson for which she sees he is just ready. In our other schools the system is the fetish, before which children are sacrificed by classes. In the Kindergarten the child's needs make the system. In so far as he puts forward any claim, righteous by reason of nature's endorsement, that is a law of the Medes and Persians for the time being. Each step thus gained is an advance that is never lost ; and this lack of an invariable system gives most true and systematic results, for the whole universe is working for its ends and justifying its means.

That the expression of individuality is encouraged in the Kindergarten is shown by the children's beginning to invent very soon after their admission. As soon as the first rapture of using such pretty things passes, so that they are no longer absorbed in that, they invent. They invent with all their gifts. In pricking, instead of going over the card in regular rows, they will first outline a ship, a chair, a house, or whatever object suggests itself. With their weaving they will invent new patterns, often anticipating the one next in succession, and thus unconsciously bearing their

testimony to the naturalness of the series. With their slates, sticks, cubes, etc., they show the same early development of this faculty and their pleasure in its exercise. And, side by side with these more brilliant powers of the mind, the method which they are taught to follow—of developing one form from another without destroying the first except as they work—shows them the beauty and value of order. As they work thus with the different materials, they explain what they are doing and describe the objects that they make, and thereby acquire a clear, logical manner of seeking and thinking.

The child now is not the resourceless being he would otherwise be. From the simplest materials he can evolve wondrous shapes, and as he takes up his material his mind is no longer a vacancy. Ideas come faster than he can execute them. With a few sticks, a little clay, a piece of paper, a needle-and-thread and a square of cardboard, he is an artist in his studio or a manufacturer in his shop. Let us follow the young student thus launched in life a few steps farther. Not only is he thus physically, mentally and spiritually a gainer by his Kindergarten experience, but he has acquired an ease and skill in the use of his hands which shall stand him in stead at every step in his life; and, if he is to earn his livelihood as a worker in the arts and sciences or the mechanical trades, he has in that special training great advantages never otherwise attainable, while, at the same time, his sense of color, form, symmetry and harmony has grown with his growth in other directions; and, when he enters upon his man's labors, it is with cultivated taste as well as mechanical skill. Any one unfamiliar with the system would be much surprised to see how soon, and to what extent, these results show themselves in even the youngest children. How soon their trembling, blind efforts become easy and certain; how soon they recognize harmonious relations and contrasts; and how soon they clearly show a logical development of thought in their work, and a decided purpose to govern it. Among other things, this school of training will bring back the era of honest work. It is impossible that those whose fingers by long practice move skilfully; who have absorbed the true relations of things from the time that they were first able to think or learn; into whose souls the love of the true and the beautiful has sunk so that there is no more divorce between them, from drinking daily draughts of inspiration at their uncontaminated springs—it is a moral impossibility that such workers should do the treacherous work of dishonesty. The Kindergarten graduates are thus freemen "whom the truth has made free"—the truth involved in making straight lines and counting the corners of cubes until there is no more confusion of facts. Just as surely as the Kindergarten, filled with the spirit with which Froebel invented and applied it, shall have been the accepted education for its young children for three generations, just so surely will every state find that it saves them actually and prophetically in the promises already fulfilled, most or all, of its almshouses, its gaols and its insane asylums. It will turn crime-provoking poverty to smiling comfort, idleness to happy industry; it will make many pains and deformities of the body a thing of the past; it will spare to society and to the state the terrible shadow of mis-spent lives. In fact, it will, more than any other human institution, help man to vindicate his right to be called the child of God, and his co-worker in the grand plan of the universe.

Having told what the Kindergarten training will do for pupils fortunate enough to fall under its influence, I will endeavor to show that these results are but the logical and inevitable results—logical, because the system is a logical development of the entire being, founded upon the laws of nature which are from the hand of Divine Wisdom, inevitable because natural. Before the time of Froebel the science of pedagogics was founded upon abstruse

thought, although sometimes introducing, as in the various object-systems, the concrete form as a means of education; but Froebel, by a divine inspiration, laid aside his books, wherein theory mystified theory, and studied the child. He said, God will indicate to us in the native instincts of his creature the best method for its development and governance. He watched the child at its play and at its work. He saw that it was open to impressions from every direction; that its energies were manifested by unceasing curiosity and unceasing restlessness; that, if left to itself, the impossibility of reaching any satisfactory conclusions in its researches little by little stifled its interest; the eager desire to explore deeply the world of ideas and objects before him passed into a superficial observation, heeding little and sure of nothing. He saw that the law which bade it flit from object to object in this unceasing motion was a law of development implanted by God, and therefore good; but that, unless it were directed and given aim and purpose, it became an element of mischief as well. Then what could be done? How, was the possible angel to be developed, and the possible devil defeated?

Froebel said, If we take God's own way we must be right; so let us direct into a systematic but natural course of employment all these tender fancies, these fearless little hands and feet, and these precious eager souls, and then we shall work with the divine love and intelligence, and it with us, and our children shall find the good and avoid the evil; then year was added to year of thought and study and practice, until he gave his system to the world in its present completed form. "Come, let us with our children live!" he cried; "not leave them to their own devices in a world of their own—all cloud and mystery! Let us enter into their world, and with our knowledge and experience help them out of their difficulties, and learn of them still more how to help them! We do not need to carry, to help them, books that we can scarcely understand ourselves. God's books—the fair creation of the world about us—are the materials we want. Neither child nor man can exhaust the stores of wisdom in them, but he may grow up among them with a nature undistorted by any artificial and blundering system of training or neglect."

But perhaps it may be possible, after these general statements, to suggest the scope and interest of this peculiar teaching by taking up more fully one of the occupations. Let us take one method of using the third gift, the divided cube: Imagine the children at their tables waiting for them! The teacher, or some pupil delegated by her, distributes the little boxes—one to each pupil, who, on receiving it, says, "Thank you!" and places it as by previous direction directly before him on the table, a certain number of squares away from the edge, and again folds his hands and waits. And this folding the hands and waiting is by no means devoid of teaching. When each child is provided with his box, the teacher says, "One." When the children have once learned the order of the movements, each little right hand pulls out the cover a little way. At "Two" the boxes are turned over on their covers; at "Three" the left hand is placed on the top of the box; at "Four" the cover is pulled wholly out by the right hand; at "Five" the box is lifted from the cube, which is left unbroken on the table. At the next command the box, with the cover inside it, is placed behind the cube. Little children of three years will take great delight in doing this successfully; and if you will try to do it yourself you will find that no little promptness and skill are necessary. The child, having become acquainted, through the second gift, with the whole cube, has from this to gather the ideas of division, number, combination, etc. He counts the corners, edges, and surfaces; he compares it with other cubes he may be able to find in the room; he makes and unmakes it; he builds with it forms of



life and symmetry; he explores day by day, lesson after lesson' into all its qualities and capabilities; and as he does this he is led to draw helpful inferences and applications from the different phases it assumes to him. He is never allowed to talk in incomplete sentences, and therefore all his ideas become clear and sharply defined, and at the same time he is encouraged to exercise his imagination upon the subject, and to make it the groundwork of any development of fact or fancy, provided always the distinction between reality and romance is kept clearly in view; and thus the powers of expression are so cultivated that from Kindergarten graduates, I think no teacher of higher departments will ever receive the now common and perplexing answer, "I know, but I can't say."

No one would understand from a mere description of the work the number of influences active in any one occupation; but any one who watches Kindergarten classes will see that many important habits of mind and body are being cultivated, especially a clear, prompt seizure of ideas; a ready, skilful obedience to the directions given, and a willing, intelligent submission to laws of order and social intercourse.

In the modelling, drawing, weaving, sewing, etc., no patterns are before the children; they either work from directions by word of mouth from the teacher, or give shape to some idea in their own minds which seeks expression.

In no one thing is the child treated simply as a passive creature, and so made dull and lifeless. He is made the centre and agent of his own education, and he constantly grows in mastery over himself and the material world. Instead of being filled with other people's opinions, his own are sought, discussed and deferred to when worthy, and he in turn required to defer to any found more worthy than his own. If ever the old vision of a perfect nation such as has inspired the dreams of many heroic souls, is to be realized on earth, it must come through such teaching as this.

I have claimed much for the moral training of the Kindergarten as directly exhibited on the will and passions of the child, but that is hard to demonstrate unless the sympathy of one's hearers gives them insight into the necessary results of the system; but there is one phase of the question more plain and definite, and that is the effect of the physical training upon the character. It is sufficient to insist upon this. To the most careless observer the physical gain will instantly appear. Every one knows what constant gymnastic exercises do for the body; and every one, I think, must have felt that a body healthy and strong is a most important moral auxiliary. How much peevishness, ill-temper and selfishness do we excuse because "The child is not well!" What we should not excuse in ourselves is the allowing the child to be ill. Dr. E. H. Clarke said, in his "Sex in Education," that the unhealthy mental stimulus of our public school system had a terribly weakening effect upon the morals of the pupils. I do not know but he exaggerated the evil; I trust that he did; but I believe that he had only too much foundation in truth for the assertion. If the fact is so, even to whatsoever slight a degree, that system which carefully avoids these harmful stimulants and develops body and brain in every fibre, together, must have the contrary effect and give moral stamina.

It is sometimes advanced in objection to these views, as an *a priori* refutation of the hopes of believers in the Kindergarten, that philanthropists have always been disappointed in the moral results obtained from the various educational methods that at first excited their enthusiastic support. Statistics may show that in the many imperfect developments of our civilization crime increases at a fearful ratio in defiance of our trust in education. But, as has been wittily said, there is nothing so false as facts except figures. And I doubt whether a broader, or, at least, a deeper,

view of the question will justify any discouragement or depreciation of what has already been done, because it does not take into consideration what must have been the inevitable condition of things had not education modified the life and manners of the people at large. Perhaps there would have been less ingenuity in crime manifested, but most certainly the annals of the world would have been infinitely more crowded with the more objectionable brutal sins to which humanity is prone. But whether or not there is any fallacy in the argument of past failure scarcely touches our position, for it is more especially because the Kindergarten system brings into play moral elements of education never before insisted upon that it is so essentially, in both theory and practice, a different system from all others; and we expect from it different results.

Many boards of education cry out that the system is so expensive that they cannot afford it. In and of itself the Kindergarten is not an expensive method, even compared with others. It can be made so by injudicious management, I grant; but inexpensive furniture is just as good practically, and more in consonance with the spirit of the true Kindergarten, than costly furniture is. One of the objects of the system is to show to children how much can be done with simple means, and that beauty and worth are dependent upon other things than cost of material. The question of salaries, however, comes in as a separate point. Least of all things do I think that there should be greater economy in them than is now practised; but, if there were only the interest felt that the subject demands, any good Kindergarten teacher, capable of training, should have volunteer assistants enough to enable her to take charge of fifty or sixty pupils, especially as no young girl's education should be considered complete until she has taken a thorough Kindergarten course, and so prepared herself to take the part of mother to her children, with an understanding of the child-nature and its needs, and a knowledge of the means of properly satisfying them. Thus there is nothing but the present want of knowledge and enthusiasm upon the subject to stand in the way of public Kindergartens. But private Kindergartens have to struggle against the same feeling, that of too great expense, without any reason at all. Parents say that they cannot afford to give their children this one best thing in their power to command for them; while, without a thought or murmur, they spend many times the money on a child in nurses who teach it evil, in dress in which it has no true comfort, and in unwholesome luxuries. I heard of a young lady the other day who had not any money left for lessons because she was going to so many parties; and I have had people come to me in their handsome carriages, dressed in silks and velvets, to say that they could not pay for their children's education. My heart sinks within me when I think how many these people are; and when I try to imagine some remedy for the disproportioned ideas by which they are governed, I know of no remedy but a Kindergarten training. I do not think that Kindergarten graduates will make such mistakes; but meanwhile must the little ones be sacrificed? A great and noble work is being done for the poor in charity Kindergartens, but I think the children of the rich are in need of missionary labor, too.

It seems to me that the influence upon society through those that are to grow up, or ought to grow up, to be controlling powers in it, is so great that something should be done in this direction as well as in those more distinctly called charitable. Schools guaranteed a certain sum, so that the tuition fee could be put at what those who do not wish to pay much for education would term reasonable, might, perhaps, answer the purpose and gradually make known the merits of the system, so that people in general would think more justly upon the subject.

And in this connection I would again urge the importance of a

Kindergarten training for young girls, not only that it is a most necessary step in social science in preparing them for their duties in life, but that also in that way we may safely look for intelligent and enthusiastic appreciators in the system, who, as mothers and elder sisters, will not only understand the virtues and importance of the Kindergarten education, but be ready to begin and second at home the development of the children. The work that is to be done at home before the child reaches the age of three, and the help given at home when it passes into the wider school influences, are most valuable factors in the final success of the training, and, it seems to me, such important elements of the final success that kindergarten associations will do well and most wisely that expend a part of their time to accomplish this purpose.

Again it is said: But the child of three years of age is too young to go to school. To any other school than the Kindergarten, he is too young to go; but every period of the child's life has its peculiar needs and claims upon educational assistance, and in no period can be done the work of any other without straining the natural powers and doing harm. The laws which govern the development of the child are the same as govern the rest of the universe. Nature speaks as loudly through him as through the plant or lower animal. And is there any intelligent farmer that neglects his crop until it is half-grown, and does not expect to find it choked with weeds? Is the foal or calf left to find food and shelter where it may? Indeed, no! That is too unscientific and too unprofitable a way to treat a horse or a cow. It is only the young children, for whom little time, little care and no money must be spent, whose better powers must be choked with weeds of idleness or starved from lack of proper food.

God has given to the awakening sensibilities a certain unavoidable influence upon the developing creature, and great susceptibility to each and every impression brought within the range of its perception.

If life at this period is vacuity, or a fretting of the eager wings against the bars which keep it from its appointed means of growth, then vacuity, fretfulness or indifference is the final result. If not given innocent and helpful means of growth, and thrown mainly upon the society of coarse and corrupt servants, the soul must lose its purity and acquire tastes that lead it astray. Parents would feel insulted at the proposition that they should admit into their intimacy those to whom they trust their children day after day and year after year, at the time of all others when the most tender, true and careful guidance is necessary—for it is from three to seven years in the age of a child that habits, either good or bad, become fixed, and the character takes the hues that are to mark it through life. Suppose, however, that there is an only child to whom a fond and capable mother is willing to devote herself. Even then it is a great mistake not to arrange that he shall be educated with other children. At three years of age the child needs—what we all need through life—association with its peers in age and accomplishments. Then alone can he form any rational judgment of things, or see any true moral values bearing upon himself. Then he is under the restraint and teaching of society, and only then.

Can it be possible that God should endow his creatures with powers that he did not intend should be cultivated to their perfection? Can it be possible that these powers are given in the earliest youth peculiar intensity and impressibility for nothing? Does not the heavenly Creator say in these facts that this is the time of all others to give to the waiting spirit, yet thrilling to the first awakening thoughts, that guidance which is necessary to its proper understanding of its own life, and its personal relations to the rest of the world? It seems to me that all argument is rendered unnecessary by the natural phenomena connected with the

unfolding intelligence of the child and the appeal that its helplessness always makes to the heart.

Again, it is sometimes said that the freedom allowed the child in the Kindergarten must make it difficult for it to submit to strict rules of discipline. I can only say that such is not my experience, and that, from my knowledge of Kindergarten principles, I should not expect it to do so. The freedom given the child in the Kindergarten from too great subjection to the will of the teacher, or to an unchanging rule, is more than counterbalanced by the self-control to which every influence in the school tends. If, for the welfare of body and mind, the child is neither compelled to unbroken silence nor an immovable posture, he is taught by precept and example, and by the natural results of intercourse with children of his own age, that his freedom ends where another's interests begin. In so far as he harms and troubles no one he may pursue his wholesome purposes in speech and action, but if he speaks or moves so as to interfere with another he is taught that courtesy and justice command him to modify his ways. In fact, the true Kindergarten is a model state, in which each little citizen learns what is due to himself and to others, and to grant those dues almost universally with the instinctive grace of souls yet keenly sensitive to all natural truths. When the child thus trained passes into other relations, these habits and convictions lead him to submit unquestioningly to restrictions deemed necessary for the common good. So that, instead of leading to insubordination, the Kindergarten system takes the only rational and consistent method of annihilating from the child's mind all tendencies to riotous and unreasonable behaviour. Often the wish rises in my mind, and with constantly increasing intensity, that those who have, or ought to have, an interest in the proper education of children would go into true Kindergartens and see with their own eyes whether it is simply amusing children, as many think, or whether, as its advocates insist, it is a philosophical system of education fairly essential to the full fruition of the highest promises of civilization and the best welfare of mankind. It will not suffice to see one game played or one mat woven, although I have heard many learned opinions given upon that experience. But any one who will give a week's time to the investigation will, I think, reach the conviction that it is the most perfect system of education yet offered to the world, and that, if it is in some minor points yet capable of improvement, still it even now opens to the child such glorious possibilities of growth as shall make him in time truly worthy to inherit the earth, and, in the eternal years of progress, the kingdom of heaven.

## EDUCATION AMONG THE INDIANS.

NOTES OF A VISIT BY DR. HODGINS, DEPUTY MINISTER OF EDUCATION.

During a recent official visit to the Parry Sound and Muskoka Districts, I had the satisfaction of taking part in the establishment of schools for the several bands of Indians on the Reservations lying along the Georgian Bay Coast, from Parry Sound to French River.

Last year, by arrangement with the Dominion Government, the duty of establishing and inspecting the Indian schools in the Parry Sound District was entrusted to the Education Department of Ontario. This duty was partially carried out last year, with the assistance of Capt. Skene, the Indian Agent at Parry Sound, and School Inspector Miller, who accompanied me to the Parry Sound and Shawanaga Reservations for that purpose. At both places the bands of Indians were called together by Capt. Skene, and were addressed on the subject by Mr. Miller, Capt. Skene, and myself.

The Indians seemed greatly pleased at the prospect of having schools established among them. At Parry Island, Capt. Skene (under the direction of the Indian Department at Ottawa) had a neat and substantial log house erected, in which we met the Indians. Subsequently Mr. Miller organized the school and enrolled between 20 and 30 Indian children. They were placed in charge of Mr. Elias, an admirable Indian teacher and missionary, who had been trained for his work at the Muncey Institute. Steps were subsequently taken by Capt. Skene to have school houses erected on the other Reservations, so that during this year schools might be organized in them. This has been done; and at my recent visit, Mr. Miller, aided by Visiting Inspector Switzer and Capt. Skene, established another school at the Shawanaga Reservation, about 35 miles north of Parry Sound. Thither we went in a steam-tug, and walked five miles through the woods to the Reserve. Owing to a slight alteration in our arrangements, we visited the Reserve a day before the time appointed. Chief James met us at the school-house, but our coming so soon had disarranged his plans. He had intended to have received us with some little ceremony, and, with his band collected, to have had the Union Jack hoisted, and to have had some other demonstrations in honor of the event. As it was, he received us very cordially, and sent round without delay to collect the members of his band and their children. After Mr. Miller had enrolled about 30 children, he, Mr. Switzer, myself, and others, addressed the company present. Our remarks were interpreted to the Indians by Mr. Elias; and at the close Chief James made a very hearty and touching speech, expressive of his estimate of the value of education to the Indians, and of the great pleasure which the day's proceedings had given him. With true Indian courtesy, he accompanied the party through the woods, five miles, back to the steam-tug, when, after giving him and his band three hearty cheers, we steamed away to Byng Inlet, 60 miles from Parry Sound, which we reached late in the evening. This is the headquarters of the Maganetewan Lumber Company. We were all pleased with the neat appearance of a village lying so far to the north. Although late at night, Mr. Miller and Mr. Switzer, our indefatigable Inspectors, aided by Mr. J. H. Buck, the Manager of the Company, and others organized a Public School Section there. We then held a very pleasant conference with the principal residents.

Next morning we started for Henby Inlet, near French River, but as the Captain of our steamer was not familiar with the navigation of the place, we had reluctantly to turn back and proceed to Parry Sound. I arranged, however, that Mr. Elias should take an Indian teacher with him and open the school there this month. When this is done the whole of the children of the various Indian bands in the Reserves along the eastern coast of the Georgian Bay will be placed under instruction. This is certainly a matter for sincere congratulation.

As to the result of the experiment, I have now no fears. I confess that last year, when the Parry Sound School was established, I had both doubts and fears as to the success of the scheme. With a view, however, to satisfy myself on the subject, arrangements were made that the pupils in the school on the Island should be submitted to a thorough and satisfactory test. This was done by Mr. Inspector Miller, in presence of Capt. Skene, Professor Croft of Toronto University, Inspector Switzer, and some of the local clergy. The classes were examined in Natural History, object lessons\*, arithmetic, grammar, spelling and writing. Making due

\*It was both amusing and interesting to watch the countenances of the Indian boys and girls as Mr. Miller held up for them to name the pictures of animals, birds and reptiles familiar to them. The bear, wolf and fox were recognized as old friends; and many a friendly "ugh" greeted the appearance of a snake, a frog and lizard, as well as the pigeon, hawk and crow. The beaver, muskrat and otter received instant recognition; and the answers of the children as to the names were greeted with pleased laughter by the parents, who entered quite into the spirit of the exciting and interesting examination in Natural History which was held by Mr. Miller.

allowance for the novelty to them of the occasion, and the natural timidity of the Indian boys and girls, it was surprising to see how well the pupils acquitted themselves. Although slow and cautious in expressing their thoughts, the answers of the children were in almost every instance correct in substance or in fact. At the close of a prolonged examination by Mr. Miller and Mr. Elias, I subjected each member of one of the largest classes to an examination in writing on the black-board. They all acquitted themselves to my entire satisfaction. At the close, the examiners, Capt. Skene, Mr. Miller, the clergy, and others, addressed the school and the Indians present. Replies were given by some of the leading Indians, including the old and young chiefs. The result of the experiment will, I trust, induce the Dominion Government to place the whole of the schools for the Indians of this Province under the supervision of the Education Department.

There was a fact and an incident connected with the exercises, which were very gratifying. Among the pupils enrolled who acquitted himself so well as to be quite noticeable, was the newly elected Chief of the Band. In this he showed an admirable example to all the young men of the tribe, and by his voluntary enrolment in the school he showed the high estimate which he himself placed upon education, as a means of elevating and civilizing his people. Chief James, too, in an address to Shawanaga, gave utterance to very enlightened views on the same subject. The pleasing incident to which I have referred was the modest manliness, and yet the dignity, with which the young Indian Chief delivered his maiden speech of thanks and welcome to his visitors. In this he was with much kindness prompted and encouraged by his rival, the unsuccessful competitor for the Chieftainship of the Band.

There was one feature of the gathering which quite interested us, and that was the general attendance from all parts of the Reservation of the Indian men and women—the latter dressed in their best—and all evincing by their appearance the happiness and prosperity in which they live on their Reserve. Even the Indian girls in their classes had a ribbon or some little bit of finery on their hats or dresses, designed, no doubt, to do honor to the occasion which was to them so interesting and important, as a new departure in their hitherto unintellectual life.

At the suggestion of Chief James, with the concurrence of Capt. Skene, we named the Indian School at Parry Island, "Byerson School, No. 1;" that at Shawanaga, "Hodgins School, No. 2;" and that at Henby Inlet, "Miller School, No. 3."

J. GEORGE HODGINS.

Toronto, 15th September, 1879.

## NEW SCHOOL-HOUSES.

To the Editor of the Canada School Journal.

How far a responsible Government should interfere in urging the building of school-houses is a question which recent events induced me to investigate. The causes of this interference seem to be the unwillingness of wealthy sections to provide accommodation. If, for the sake of argument, we admit that there is a considerable number of such sections, the interference shows an abnormal state of things, when the Government evinces more solicitude for the comfort of my children than I do myself.

There may exist such a thing as national maternal anxiety in the State for her subjects, and it is a pity that such tenderness should be unappreciated by the subjects merely because the State's love is stronger than her liberality. The excision of the dangerous part of the power of trustees to raise any amount of money for school purpose is fully appreciated; and whoever was author of the suggestion has the hearty thanks of everybody. This was the opinion of the ratepayers convened in a special meeting to grant liberty to the trustees to borrow \$1,000 to build a school-house;

and it was one of the trustees, anxious for the liberty, that drew my attention, as chairman, to the wise School Law amendment. The liberty was refused. Had trustees fairly represented the intention of their constituents, restrictions on their power would be a hindrance by the State to people wanting to build; but it sometimes happens that sinister motives, other than comfort, induce two trustees to disregard the "declaration." But little credit is derived from churches, school-houses, or any other houses built with debt; no credit is due to inspectors for undue urgency, and still less to the people in heeding such urgency. Surely we are the best judges of our own ability.

JOHN IRELAND.

### Mathematical Department.

Communications intended for this part of the JOURNAL should be on separate sheets, written on only one side, and properly paged to prevent mistakes. They must be received on or before the 20th of the month to secure notice in the succeeding issue, and must be accompanied by the correspondents' names and addresses.

As might have been expected since the insertion of the communication on the trisection of an angle, we have received several attempts at the same problem, none of which, however, were successful. It may save some of our correspondents trouble to be informed that no attempt will be successful in which the end is sought by methods purely geometrical, i. e., by methods employing only the rule and compass. The following mechanical solutions are sufficiently simple:

(1). To trisect the angle  $ABC$ . From  $A$  let fall on  $BC$  the perpendicular  $AC$ . Through  $A$  draw the indefinite straight line  $AE$  parallel to  $BC$ . Take a line  $FE = 3AB$ , and let it rest between  $AE$  and  $AC$ , so that  $E$  is in  $AE$  and  $F$  in  $AC$ , and adjust  $EF$  so that produced it passes through  $B$ . Then  $EBC$  is one-third  $ABC$ .

Bisect  $FE$  in  $D$ . Then  $ABD = ADB = 2AED = 2EBC$ . Hence  $EBC$  is one-third of  $ABC$ .

(2). To trisect the angle  $ABC$ . From  $B$  as centre describe a circle and continue the radius  $OB$  indefinitely to  $E$ . Draw  $ADE$ , cutting the circle in  $D$  in such a manner that the part  $DE$ , intercepted between the circle and  $CE$ , may be equal to the radius  $AB$  or  $BC$ . Draw  $BH$  parallel to  $AE$ , to meet the circle in  $H$ . Then  $HBC$  is one-third of  $ABC$ .

For  $HBA = BAD = BDA = 2BED = 2CBH$ .

When the three sides of a right-angled triangle are given, the values of the angles may be found approximately without the aid of trigonometrical tables. Let  $a, b, c$  be the sides of the triangle,  $a$  being the least side and  $c$  the hypotenuse; and let the angle  $A$  be not greater than  $80^\circ$ . Then number of degrees in  $A =$

$$\frac{8a}{2c + b} \times \frac{1}{.01745} \text{ approximately.}$$

Thus suppose the sides of a triangle to be 5, 12 and 13; the angle opposite to 5 is  $\frac{15}{88} \times$

$$\frac{1}{.01745} \text{ degrees} = 22^\circ 87' 15".$$

Its true value will be found to be  $22^\circ 87' 28"$ .

If the sides of the triangle be nearly equal, so that both the angles are greater than  $80^\circ$ , bisect the angle  $A$  by  $AD$ . Then since  $BD$  is to  $DC$  as  $BA$  to  $AC$ ,  $DC$  is known and thence  $AD$ . Accordingly we may calculate  $DAC$  as before, and  $BAC = 2DAC$ .

The formula given above may be deduced as follows:—If  $x$  be the circular measure of the angle  $A$ , then approximately,  $\sin x$  being small,  $x = \sin x + \frac{1}{6} \sin^3 x = \frac{a}{c} + \frac{1}{6} \cdot \frac{a^3}{c^3}$ ; and this last,

when  $b$  is nearly equal to  $c$ , may be shown to equal  $\frac{8a}{2c + b}$ . The

fraction  $\frac{1}{.01745}$  is merely the multiplier necessary to reduce circu-

lar measure to degrees. The formula will give the degrees and minutes correctly, and being easily remembered will be found useful on occasions when tables are not to be had, or when their use is not understood.

We are asked for the solution of the following:

What is the amount in dollars and cents of 60 cents for one hundred and ninety-two years (192) at 6 per cent. per annum, interest compounded half-yearly?

Let  $A$  be the required amount. The  $A = (1.03)^{384} \times .6$ ;  $\therefore \log A = 884 \log 1.03 + \log .6 = 884 \times .0128372 + \bar{1}.7781518 = 4.7076861$ , and number corresponding to this logarithm is 51007.74; therefore amount = \$51007.74.

### EXTRACTION OF ROOTS.

[COMMUNICATED.]

Let  $N$  be the number whose root is to be extracted,  $r$  an approximate root,  $n$  the degree of the root, and  $R$  the root. Then approximately

$$\frac{N}{nr^{n-1}} + \frac{n-1}{n} r = R.$$

(This may be shown as follows:  $N = R^n = \{r + (R-r)\}^n = r^n + nr^{n-1}(R-r)$ , approximately, by Binomial Theorem, neglecting powers of the small quantity  $R-r$  above the first; or  $N =$

$(1-n)r^n + nr^{n-1}R$ , or  $\frac{N}{nr^{n-1}} + \frac{n-1}{n} r = R$ ). This formula is easily

remembered, is applicable to roots of any degree, always converges and rapidly, and to men who often forget how to calculate a cube and sometimes a square root, will be of value in the absence of a table of logarithms.

Ex. 1. Let it be required to find the square root of 2. Suppose

$$r = 1.4. \text{ Then } R, \text{ i. e., } \sqrt{2} = \frac{2}{2(\frac{1}{14})} + \frac{1}{2}. \frac{1}{14} = \frac{1}{14} + \frac{1}{14} = \frac{2}{14} =$$

1.4142, true to four places. By substituting  $\frac{2}{14}$  in the formula we have  $\sqrt{2} = \frac{2}{\frac{2}{14} + \frac{1}{2}} + \frac{1}{2} = \frac{14}{14 + 7} + \frac{1}{2} = \frac{14}{21} + \frac{1}{2} =$

$\frac{14}{21} + \frac{10}{21} = \frac{24}{21} = \frac{8}{7} = 1.142857$ , true to eight places. If this value be substituted there results  $\frac{2}{\frac{8}{7} + \frac{1}{2}} + \frac{1}{2} = \frac{14}{14 + 7} + \frac{1}{2} =$

$\frac{14}{21} + \frac{10}{21} = \frac{24}{21} = \frac{8}{7} = 1.142857$ ..... See De Morgan, Budget of Paradoxes, Page 293.

In this particular example, the successive fractions are easily formed by taking the denominator of the first for the numerator of the second fraction, and doubling the numerator of the first for the denominator of the second fraction. By proceeding in this manner the value of  $\sqrt{2}$  may, in a short time and with comparative

ease, be found to one hundred places.

This method, therefore, will give in a single trial a value of the root sufficient for most purposes, and in a few trials a very accurate value.

Ex. 2. Required  $\sqrt[3]{37}$ . Since  $3\sqrt[3]{37} = \sqrt[3]{99}$ , and  $10^3 = 1000$ ,

$$3\sqrt[3]{37} = \frac{999}{3(10)^2} + \frac{3}{3} \text{ of } 10 = 8.88 + 6\frac{2}{3} = 9.996666, \text{ and } \therefore \sqrt[3]{37}$$

$= 3.332222$ ; the true root is 3.3322218, so that the above is only 4 in error in the ten millionth place.

Ex. 3. Required  $\sqrt[4]{30}$ . Let  $r = 2$ . Then  $\sqrt[4]{30} = \frac{30}{5 \times 2^3} + \frac{1}{4} \text{ of } 2 = \frac{3}{5} + \frac{1}{2} = 1.975$ . The true root is 1.97485.

Ex. 4. Required  $\sqrt[10]{500000}$ . Since  $2^{10} = 524288$ , let  $r = 2$ .

$$\text{Then } R = \frac{500000}{19 \times 2^{18}} + \frac{18}{19} \times 2 = 1.9950. \text{ The true root seems}$$

to be 1.99501.

The advantage of this method appears to be the ready remem-

brance of the formula, which for the square root is  $\frac{N}{2r} + \frac{r}{2}$ ,

and for the cube root  $\frac{N}{3r^2} + 3r$ .

This method is equally applicable to fractional numbers.

Required  $\sqrt[3]{5.456789}$ . Let  $r = \frac{1}{2}$ . Then  $R = \frac{5.456789}{2(\frac{1}{2})} + \frac{1}{2}$   
 $= 2.885977$ , true to the last figure inclusive.

G. SHAW, Kemble, Ont.

SUBSCRIBER, Meaford, and J. A. D.—Please forward names and address.

J. A. D. has sent in a correct solution of Prop. 5, March No., but has failed to get Prob. 4.

## Practical Department.

### THE TEACHER.

**MANNER.**—"Manners make the man." This is the motto of one of our oldest and most celebrated schools. It has a lesson for the teacher. He is what his manner is. If he is listless, aimless, and indifferent himself, then his children will be listless, aimless, and indifferent also; but if he is earnest, devoted, and determined, they will be so too.

**REALITY.**—Manner is the carriage, personal bearing, or mode of action characteristic of a person. It is the outward rendering of the man. Sometimes there is an assumed manner, but it never deceives, as it is impossible entirely to cloak that which is real. "No one can be a good teacher," says one of the Ancients, "who is not himself good." He means that it is impossible to assume and sustain the external accessories of good teaching when those things of which they should be the outgrowth do not exist.

**EARNESTNESS.**—A good manner is marked by earnestness. There is a real desire to benefit our pupils, to do our work well, and to influence for good those who are addressed. Earnestness is marked by geniality and pleasantness. These throw sunshine over the face, which is reflected on the class, or rather, they may be said to be rays of light issuing from the spirit within, and refreshing all on whom they fall. The face of such a one is known by its smile. Its muscles have a tendency to relax rather than to become rigid. A good manner is marked by the use of the eye. This is comprehensive. No one is overlooked. Each pupil feels it. It is as readily attracted by the dull as by the bright. Every one feels that it cannot be deceived, that there can be no concealment, no tricks undiscovered, no underhand communication, or sleight of hand unobserved. Such an eye has power. It speaks praise or blame, approval or censure. It is quick to express feeling and thought, and to recognize them in the pupil. A good manner is marked by decision, firmness and confidence. It is rather positive than suppliant. It has all such qualities as exclude feebleness, timidity, nervousness, and petulance. It is a manner that inspires confidence as well as exhibits it.

**SELF-CONTROL.**—As manner is the external index of mind, we should note that a good manner is impossible without self-control. The little things that tend to ruffle the spirit and to try the temper do not disturb it. If it is necessary to retrace the steps in order to make clear to some what others have thoroughly understood, its owner does so without betraying annoyance. He does not act as though these things were not foreseen. He has also that degree of confidence in himself, which enables him to do his work with ease. At the same time, he is not self-conscious. Self-consciousness is destructive of a good manner. For it implies that our mind

is on ourselves, our modes of action, or on the impression we are making on others; whereas a good manner implies that the mind is absorbed in its work. Any one thinking of himself and of his mode of doing a thing, will inevitably be affected; just as one who lays down for himself certain rules is sure to become artificial if he thinks of these rules rather than of what he is doing; or as a lady who was thinking of her manner of walking would be sure to walk ungracefully. Not that certain concomitants of a good manner are not to be cultivated, when they are not natural to the individual. These are to be sought, but at the right time and in the right way. But we contend for two points. First, manner must be *natural*—that is, it must be spontaneous. It is only as it reflects the spirit within that it can be effective. Hence the prime thing is to foster those qualities of mind which shine through a good manner. Second, have a manner in which there is nothing artificial; there must be no thinking of rules, or of the mode of doing, or conscious imitation of the tones, bearing, or gestures of another; but the mind must be absorbed in the work in hand.

**GESTURE.**—A good manner will be marked by appropriate action. In a natural manner there is gesticulation. It is impossible to be under the influence of feeling without emotional manifestation. Yet such gesticulation may be unbecoming. It is a part of our education to bring emotional expression under control. If, then, gestures are uncouth or awkward, boisterous or vehement, they would indicate that this part of education had not received attention. Yet it were better that there should be extravagant gesture than that there should be none; for the former may be toned down, while for the latter there is no compensation. It is better to be a living being than an automaton. Rules cannot be given for action, but two things may be noted. If gesture is natural, it will precede speech rather than follow it. For when an emotion is struggling for expression, it will show itself in the gesture before it appears in speech. The other thing is, that the final cause of a good manner in teaching is, that the teaching shall have its full effect upon the class. Hence there should be no gestures that would draw attention to the teacher rather than aid his efforts.

**MANNERISM.**—For the same reason he should avoid mannerisms. He must not be stiff, as though his muscles were as rigid as bone, or as though he was afraid of his dignity. He should not stand on one foot with the other crossing it and resting on the toes. He ought not to place his arms a-kimbo, à-la-Napoleon, nor have his hands clasped behind. He has to avoid all that would divert attention to himself, or that would awaken the sense of the ludicrous in his children.

**SPEECH.—VOICE.**—The teacher must cultivate his voice. He should have it under control so as to be able to set it at the right pitch, and to confine it within the area of his class. The following things are essential:—He must be distinct. He must be heard. He must be followed. He must not annoy or disturb others.

**DISTINCTNESS.**—He must be *distinct*. That he may be so, his speech must be clear and forcible. This is necessary, otherwise he will not be impressive, for much that he says will be lost, and the children will exhaust their attention and patience in trying to catch what he says. There is nothing so opposed to efficiency, where the matter itself is clear, as imposing the task of gathering up what is being indistinctly uttered. The teacher's distinctness too will be reflected in his class. Children are unconsciously imitators of their teacher, and when he is distinct they become so too. This fact is often noticed in primary schools, the children being found to vary in their speech according to their teacher.

**LOUDNESS.**—The teacher must be *heard*. His voice must be loud enough to reach the farthest pupil. In order to do this, he must pitch his voice in its natural key, and he must not eat his words, mumble, or speak in his throat. He must not shout, bawl,



or scream. He must accommodate his voice in strength and pitch to the size and position of his class. An overstrained voice is exhausting to the teacher and disagreeable to his pupils.

**APPREHENSION.**—The teacher must be followed. Hence his speech must not be too fast nor too slow. In either case he makes a demand on the memory, the result being that the attention gives way. In the first case the pupil may utterly fail to gather all that is said; and in the second he may fail to connect what has been said. The young teacher, whose speech is too slow, has missed his vocation. For to speak in a heavy, sleepy, drawling way, implies either careless indifference, or the possession of a temperament that is utterly unsuited for teaching. But sometimes there is a tendency to slowness in the effort to be deliberate. Here there is a mistake. Speech is not made deliberate by a pause between successive words, but by the pauses requisite for intelligent delivery being duly made. The danger with most teachers is in speaking too fast, especially when earnestness is a marked feature of their character. The only remedy is to form the habit in common conversation of speaking in an easy, natural way.

**CONTROL.**—The teacher must not annoy or disturb others. He will succeed in avoiding these faults, if he is successful in getting that control of his voice which the above qualifications require from him.

**LANGUAGE.**—The teacher must give heed to his language. He must understand its value. It is his great instrument for moulding his pupils—as important for moral training as for intellectual culture. He who has a good stock can set forth his meaning better than one with a scantier store. It should ever be an aim of the teacher to extend his acquaintance with words and their significations. If he has language at command, if his words are significant to himself, then he will be more likely to reach many minds. It is not fluency that is now recommended, but a large acquaintance with words. Fluency is compatible with real poverty of words as well as of thought. Fluency may be a great evil. Brevity is the soul of wit, and is also at times an excellent quality in teaching. No more words should be used than are necessary to express the meaning, which is often lost in the cloud of words. Many heap up words until the subject lies hopelessly hidden. Talk then prevents work. It imposes a task to get at the meaning, which the children refuse. It must be remembered that the discipline is in what is done, not in what is he rd.

**SIMPLICITY.**—The teacher must use simple and colloquial language. He must resist the temptation of using imported words, when he has the means of expressing himself better, or as well, in simple English. He must avoid the contemptible practice of using big words, as though it were his purpose to wrap up his meaning in sound, and thus to impress his class with a notion of his profundity and greatness. He ought not to call simple things by very fine names. He must not seem to wish to appear learned. Nothing is a better indication of culture than the use of good English. Yet he must not carry this rule of simple speech too far. The best rule is, to use that language which best conveys his thought. In doing so he will necessarily use sometimes words that are not in the speech of his pupils; and so far he may not exactly convey his thought to them. But the danger is little, and will disappear, if he makes it his practice to accept answers which show that his meaning has been fairly caught, rather than to force a mode of speech on them which has no reality.

**STEREOTYPED PHRASES.**—The teacher should avoid set phrases. They come to have no meaning for himself, and they hinder his children. They are like theological terms used from the pulpit which have in themselves great significance, but which have utterly lost their power to move either preacher or people. On the other hand, a class accustomed to such phrases often becomes

impenetrable by other modes. "Allow me to put that question," said a teacher to an inspector. "No," was the wise reply, "you disguise from yourself the state of your class. You will not be always with it."

**PROVINCIALISMS.**—The teacher must guard himself against provincialisms. His ability to do so will depend on his opportunities of conversing with men of culture, and on the use he makes of what he hears from the pulpit or the platform. If his intercourse with others accustom him to erroneous modes of pronunciation and speech, he will be in danger of setting up these as standards, and considering others to be wrong who differ from him. Help in curing provincialisms can be found in the study of Rhetoric, and in the careful reading of the works of Shakespeare, Milton, Irving, Longfellow, etc.

**SPIRIT.**—Success in class teaching, as in other parts of the teacher's work, will be promoted by the spirit in which it is carried on. He must have sympathy with children. He must be able to look on things with their eyes and feelings. He must have power to enter into their thoughts, and to share in their joys and sorrows. He must be considerate. Where sympathy exists, consideration will not be missing. He will not expect from them more than they can do. He will not set up a standard of attainment which it is impossible for them to reach. He will not deal with shortcomings as though they were things that he could not expect. If his children were perfect in their attainments, they would not be in his class. Their presence there implies imperfection and need. He must be patient. Patience will be needed towards those whose conduct tends to disturb the class. It will be especially needed when teaching those who are slow to learn. For these he must go over the same ground again and again, until it is theirs, "Why did you illustrate that topic so often?" was asked of an eminent preacher. "Because I saw a poor man in the gallery who did not apprehend it," was the reply. The teacher must do the like. He must persist through all discouragements. He must exercise forbearance towards the dull and stupid, especially as he himself never belonged to that class. He must be painstaking. It is not genius or ability that is the secret of success. A painstaking teacher often secures better results than a brilliant one. But there will be no painstaking in anything of which a low opinion is held. A proper estimate of his work and a just appreciation of children's claims are necessary. Painstaking is infectious; the children imbibethe spirit and copy the example; and a painstaking scholar always succeeds. He must be gentle. Perfect courtesy should be displayed while teaching. This is compatible with firmness, strength, and energy. Gentle speech does not mean a namby-pamby mode of dealing, but it excludes rudeness, roughness, and coarseness. It was said of Arnold of Rugby, "He had such a gentle mode of reproofing their faults, that they were not so much afraid as ashamed to repeat them." He must be hopeful. Few things so sustain a teacher as hope. It is also one of the strongest incentives to exertion. His experience will ultimately furnish its warrant.

**TACT.**—Some possess a peculiar skill in adapting themselves to the circumstances in which they are placed, and in the dexterous management of persons and things. This is tact. It involves quick apprehension, great versatility and readiness of resource, guided by common sense and prudence. In class teaching there is constant demand for it. The teacher must be quick to see the meaning of an answer, and to gather from it the state of his pupil's mind; otherwise he may become an object of contempt by his obtuseness. Besides, his work is varied, and the children differ in ability; their needs are many, and their difficulties diverse, so that versatility, or the power of adapting himself to each new phase,



and readiness of resource in supplying what is needed, are absolutely essential. Common sense is also required. It is the power to think, say, or do the right thing at the right time and in the right way. Tact is shown in the management of the class; in the mode of appeal, in the credit given to effort, in the right use of praise or blame, and in the treatment of the dull, the diffident, the froward, the indolent, and the quick. Especially is tact required in the display of authority. Constant demands are made for obedience, as in questioning, allotting work, drill exercises, and in many other ways. The mode of requiring these things should not irritate. True tact will avoid rough words and a rough manner, which assume that the children intend to do wrong, or that they are disposed to resist. Of course he must be firm. He must be rigid, not lax, not bending to whim or caprice, or yielding to the importunities of his children. He must be impartial, for he must be just. He must seek co-operation, hence he must sink self. It must be seen that obedience is not personal to himself, but is rendered to law, and is for the benefit of all. Tact is impossible if there is not self-control.—*Eldridge's Manuals for Teachers.*

### ORDER.

The thing we call order is not superinduced, but involved. It is not forced, but voluntary. It is willing obedience to rightly constituted authority, and comes from a knowledge and practice of virtuous principles. It is planted in the very early periods of life—much earlier than we usually suppose. It grows, not so much a habit as a necessity; and is strengthened and confirmed by voluntary exercise.

Every act of willing obedience begets pleasure, which is an evidence of the growth of order in the soul. And every such conformity to right magnifies the law. The law seeks willing obedience. Her penalties are only the evidences of disorder, and are always inflicted in the utmost kindness, and with the greatest concern for the reformation and the good of the offender.

Unwilling or forced obedience can only be tolerated on the principle of expediency. There may be cases requiring coercion. There are many such. But they are the classes that have been spoiled, either by over-indulgence or unwise restraint—most frequently the latter. And these hereditary traits and deranged organisms, all these array themselves against law and order. They require treatment; careful, systematic and scientific treatment; not abuse.

In the same sense we have sickly children. Cripples in body as well as in mind, deformed from birth as well as those that have become so by accident or neglect. And it frequently happens that severe measures—even physical suffering—must be resorted to in order to remove difficulties of this nature, and restore soundness. Yet no one would think of indulging in anger or ill-feeling while administering any of these corrections or curatives.

Pain and suffering are our common lot—at least in this world. They are the natural result of violated law, of disobedience, somewhere in our history, or the history of our ancestors. But this pain or suffering serves as a guard and restraint against future violation. But it is not antagonistic to the exercise of the most benevolent feelings. It only shows that there is disorder or disease somewhere, of such a nature as to require a stimulant to remove it. And I might add that the exercise of violence, or the infliction of pain for any other purpose, or under the influence of any other than the most humane feelings on the part of the one administering it, is simply brutal. It is wrong to the sufferer and wrong to the one inflicting it. Both alike suffer, with this probable difference, that he who perpetrates the deed suffers subjectively, while he who

bears it suffers only objectively. Both work disorder and mischief among the faculties of body and soul. Both antagonize the principle of order.

Thus much for the philosophy of the thing; and thus saith the law, as founded in the nature of things, and it hedges us about on all sides with its most inflexible conditions. It is the voice from the burning mount amidst the thunders and lightnings and the earthquake. There is no escape from the inevitable, but through the channels of obedience; and obedience is only obedience when it is made fruitful through voluntary acceptance. Christ Himself has taught us this in the willing obedience and sacrifice made once for the redemption of the world. He thus fulfilled and magnified the law. He has also given us the great type of order and obedience.

But I believe it was reserved for that great and good man *Frederick Froebel*, to apply this law to the education of little children by the introduction of the gospel of the Kindergarten. He has thus brought life and immortality to light in the new doctrine of "Education by Work."—*John Ogden, Ohio Central Normal and Kindergarten Training School.*

### THE STRENGTH AND MELODY OF THE ENGLISH LANGUAGE.

FROM THE GERMAN OF VON SALLET. BY G. BLOEDE.

When an Italian word seems beautiful to me, I can always explain the cause of it. In this word occurs such and such full-sounding vowels, united with such such and such soft or strong consonants; consequently it must, as a matter of course, be beautiful. The Italian words seem to have been invented only to sound fine. It is quite different with the genuine English words. They have sprung unconsciously and without intention from the innermost spirit. Many of them, if I look at them critically as mere sounds without sense, I might consider ugly, and yet there breathes from them a charm that takes all the deeper hold upon me the more mysterious it is. Thus it is, for instance, with the word *sky*. What happy gladness is in the word! I will attempt to seize and dissect its beauty, but I know in advance that instead of correct reasons I shall only produce singular paradoxical ideas. A chief charm of the word lies, I fancy, in the vowel *i*. It is the gayest, most cheerful of all vowels; therefore the English have it in *delight, light, bright*. But in the word *sky* there is more than the vowel fascinating. Already the preceding, somewhat languidly whispering *s*, has a manifold meaning. First, it commands, with gentle sound, silence to all listeners, to prepare them for a lofty, sublime word. Then it marks the timid hesitation of the speaker, who does not venture to utter anything so glorious too greedily, who with sensuous avarice delays the pronunciation, in order to enjoy all the longer the foretaste and delight of the lovely sound. But then the heart wells over, the pressure of feeling breaks out into the strong, brave consonant *k*, to relieve itself, and immediately after this courageous sally it melts away into the soft, joyful sound *i*.

What gay, mischievous grace in the word *girl*! I see it chiefly in the ending *rl*, in this unexpected (and yet not hard, harsh, but gracefully rounded) playful leap from one consonant to an entirely different one—in this sudden, laughing escape of the sound *r*, which we think we are holding fast, to the lovely rounded *l*. I fancy a dear, merry, mischievous maiden, who only puts on the jarring, mocking *r*, so that one may not look into her heart too deeply—not discover the gentle all too tender *l* in her soul, that afterwards, in spite of all her tricks, yet always manifests itself in

the soft eye—a peculiar being, whom, since it is different every moment, we never quite comprehend, and yet are always fond of. On the other hand, I cannot, in the Italian *fauciulla*, think of anything but a stout being who would make a chair sigh under her. What a strong manly word is *warrior*! Every one feels this. The English *w* is altogether of extraordinary effect in strong words. The word *wind* is a compressed, very close imitation of the thing itself. If you pronounce it slowly, you can observe this quite plainly. The wind menaciously gathers breath, and finally breaks loose with a strong rush, in the *w*, sounds on in the whistling *i*, is caught between passes or buildings in the narrow, compressed *n*, and at last, in the short *d*, runs hard against a wall or rock. Altogether one recognizes in the English language the people of the sea, accustomed to tempests, the rushing of the waves, and the sound of swords (as, at least, it used to be); in the Italian, more than that, amid the sound of bells, cradled in luxuriant dreams, rests under orange trees, and smiles up idly into the deep blue sky. In English, the imitating harmony is to be found chiefly in the words relating to sea and storm (and that not in *affectedly* full, majestic, but in rigid, natural sounds); in Italian, more in those that mark the murmur of brooks, the rustle of leaves, &c.

\* \* \* The Italian language is a bright, beautifully winding river, shaded by orange trees, whose blossoms pour fragrance over it, and whose golden fruits are glassed on its surface with the clear, cloudless blue of the sky; the English, a forest stream, sprung from cleft rocks, with giant trees for their chief ornament, now murmuring on through dim, woody shadows, then with hissing and rushing, whirring and thundering, sputtering and whistling—with sounds that deafen and bewilder our ear, whose existence we never guessed at before—tumbling from high steep cliffs, and tossing below in wild whirlpools, and again spreading itself out as a quiet, melancholy lake, resting between green, rounded mountain shores. What a difference between Alfieri's tragedies—monotonous, coldly sublime, ever amid fear and terror, and yet somewhat softish in sound—and Shakspeare's all-embracing, totally and wonderfully mingled world of magic! The spirit of the poet is always analogous to that of his language; and Shakspeare could not have become Shakspeare if in his language were not hidden the wild and terrible beauties which the seer, gifted with the rod of Moses, made to gush from the hard rind. The Italian language is almost always full and beautiful even in the most commonplace conversation; but just this robs her beauty of its worth. In English, the beautiful sounds will have to be sought more in the lofty flights of inspired poets, in the bursts of noble passion. That it wants harmony no one can assert. Only, the outward sound of a language that forces itself boldly upon even the coarsest ear, must not be confounded with the inner, secret tone which owes its life only to the breath of the spirit, and manifests itself only to him who is worthy of recognizing it; but let not gay, finely colored tints be mistaken for deeply felt, deeply reflected on, harmony of color.

As to the rhythm of the English language—that is certainly misunderstood when it is only found fault with, when only crows and sparrows are thought of in connection with it. These may possibly be present also; but let us not forget, also, the threatening, powerful battle-cry of the high-soaring eagle; the yearning, tender love-song of the nightingale; the strangely sharp cry of the parrot, that sounds as though it proceeded from gay fairy lands; the joyful warble of the lark, that comes down from far above; the gloomy night-song of the owl, the gay twitter of the swallow, nor yet the melodious death-song of the kingly swan. In this sense we may willingly own that the English language resembles that of birds, and the English will not be displeased by the comparison.

## CIRCULATION AND RESPIRATION.

W. A. BRAYTON, HIGH SCHOOL, INDIANAPOLIS.

These experiments are collected from Flint, Owen, Huxley, and Carpenter, as aids to teachers in making physiology practical and interesting to pupils.

1. Accustom pupils to feeling and timing the pulse at the wrist and temple. Observe, also, that if the limb rests on the knee and the head is held firmly against the back of the chair—a common posture—the foot moves forward with each contraction and back with the dilation of the ventricles.

2. *To arrest the pulse.* Tie a knotted handkerchief firmly about the arm, the knot over the artery. The blood cannot enter the arm, and the pulse is no longer felt.

3. *Congestion of an arm illustrated.* Tie a handkerchief about the arm so as to compress the superficial veins. The blood enters freely from the arteries, but cannot return through the collapsed veins; the capillaries are distended with the bad blood, as is shown by the redness and enlargement. This is "congestion of the arm." Explain congestion of the lungs and of the brain, as in headache and apoplexy.

4. The intermittent action of the voluntary muscles compressing, the veins, regurgitation being at the same time prevented by the action of the valves, aids the heart in driving the blood through the body. Briefly, *exercise quickens the circulation.*

*To show the action of the valves.* Compress below the elbow with the fingers, the visible veins. The veins are "knotted" from wrist to elbow. These "knots" are the valves. Observe that the spaces between these valves may be emptied of blood by pressure along the veins towards the heart, and will not refill while the finger is kept at the lower extremity. The blood cannot be forced back through the venous valves. Hence muscular pressure on the walls of the veins drives the blood on to the heart.

5. *To show the movements of the heart.* Put a small dog or a cat in a tight box or bucket over which is a board, or better, a light of glass. Pour into the pail two spoonfuls of sulphuric ether or chloroform. As soon as the animal falls, remove to a table. Prick the sensitive conjunctiva of the eye with a knife blade, and if there is no muscular response, the animal is sufficiently anesthetized. Extend the limbs and secure with strings or nails to the table, the animal lying on its back. With a strong pair of scissors remove the entire breast bone, press back the walls of the chest, and the heart is seen between the collapsed lungs. These may be gently filled and emptied about fifteen times a minute with a small bellows, or rubber sack filled with air, its tube passed in at the glottis, or by inserting the tube in an incision of the trachea. This artificial respiration may be maintained an hour or more. The pericardium may be slit up, exposing to view the right ventricle and auricle and a part of the left ventricle performing their functions regularly; first the auricular systole taking two-tenths of a second, then the ventricular systole occupying four-tenths, then the diastole taking four-tenths of the heart's action, and completing the second.

*The movement of the entire heart* in the direction of its axis, projecting the entire organ forward against the walls of the chest, is due to the sudden distension of the two great elastic arteries at its base. The locomotion of the heart takes place during the ventricular contraction. It is not easily seen in a small animal.

*The hardening of the heart* during its contraction may be as plainly felt as the hardening of the muscles of the arm, by simply grasping the heart by the hand while it is in action.

6. *To show the action of the heart to a large class.* Pith a frog by

running a wire into the medulla, making the animal insensible. Tie the extended limbs to a flat surface, and with scissors remove the entire walls of the abdomen and all the viscera except heart and lungs. Inflate the lungs with a tube or straw in the glottis. Fasten the end of a broom splint near the heart and let it rest across the ventricle, its long end moving up and down an inch with each beat of the ventricle. If it lies across the auricle also there will be a short, faint movement (auricular systole), followed by the long, strong motion (ventricular systole) given by the ventricle, and then a pause (diastole). This will be repeated a half hour or more in a dry air, and if a glass be put over the frog and index, and the tissues occasionally wetted, the index will move a day or more. A shred of light paper on the long arm may be seen to move a day or more. A shred of light paper on the long arm may be seen to move at a distance of a hundred feet. This is a pleasing and simple experiment.

7. *To show that the heart is under the control of the will and nervous system.* Hold the nose with the fingers and attempt to breathe, the mouth being closed. The pulse will become feeble and finally stop. Huxley says this is a dangerous experiment. It certainly causes a slight dizziness, but I have known no injury from it.

8. *Asphyxia.* Enclose a mouse in a gauze net tied to a wire. Invert a fruit jar and introduce the animal, bending the wire at the mouth of the jar. Press the jar gently down over a cork which supports a small, lighted taper, floating on a dish of water, or the taper may be supported by a bent wire. The oxygen will soon be consumed, the light extinguished, the jar about one-fifth full of water, and the animal will be respiring an atmosphere of carbonic acid and nitrogen (nitrogen only if phosphorus has been burned instead of the taper), which produces evident discomfort, and asphyxia also, unless at once removed. The experiment may be varied by simply leaving the animal in a tight fruit jar sealed by rubber, or by placing the mouth of the jar in a plate of water, the animal inhaling the air. Also by immersing in an atmosphere of pure carbonic acid, or by holding the mouse under water for a moment. Strangulation, as in the mouse trap, also illustrates asphyxia. By such experiments the causes, signs, and treatment of asphyxia may be experimentally taught. If an air pump and condenser is at hand, the effects of confinement in a vacuum, or in a dense atmosphere, may be observed.

9. *The test for carbonic acid in the breath is lime water.* This may be prepared by putting lime in water, and, after a few hours, pouring off the clear solution. Fill a narrow bottle with lime water and pass the breath into it with a straw. The water becomes milky from the union of carbonic acid with the lime, making a chalky precipitate.

10. *Exhalation of pulmonary vapor.* This amounts to one and one-fifth pounds daily in the average man, and forms a distinct cloud in air, below 40° F. by its condensation. It may be shown by breathing against a cold pane of glass, or any polished surface upon which it is condensed and collected.

11. *Exhalation of organic matters.* These may be collected by breathing a few times through a sponge, where they will undergo putrefaction, a distinctive property of organic substances.

That the lungs are important agencies for the elimination of foreign matters is shown by the odor of garlic, onions, alcohol, or turpentine taken into the stomach, and recognized in the expired air.

12. *Oxygen of the air makes the black venous blood bright red.* (1) A clot of blood is red on the outside and black on the inside. (2) The interior of a clot becomes red on exposure to the air. (3) A freshly cut beefsteak is black on the newly cut side, and bright red on the exposed side. In a short time both sides are red. That it is the oxygen which produces the change may be shown by expos-

ing a clot of blood or bit of black steak or fresh venous blood to air from which the oxygen has been burned by phosphorus or by a taper in a jar. There is no change in color.

13. *Carbonic acid makes the red arterial blood black.* Shown by shaking red blood up in a flask with carbonic acid, or by passing a stream of carbonic acid through arterial blood; it becomes black.

14. *The oxygenation and decarbonization of the blood takes place in the lungs.* Shown in the experiment of artificial respiration already given, when the red blood can be seen through the walls of the auricle on the left side of the heart, contrasting with the dark venous blood on the right.

The influence of air on venous blood is forcibly demonstrated by removing the lungs of a dog or cat, and tying the nozzle of a syringe in the pulmonary artery, and a glass tube with rubber connection to the pulmonary vein. Take blood from the same dog, or, better, from an ox, and whip it with a broomcorn brush until the fibrin has all gathered on the brush, otherwise it will coagulate in the pulmonary capillaries.

Thrust the nozzle of a bellows into the trachea and imitate natural breathing; at the same time gently and gradually inject the venous blood through the lungs; the blood will leave the pulmonary vein with the bright red color of arterial blood. If the syringe has a double nozzle, the dark red blood can be led to a tall glass test tube put by the side of the glass receiving the blood from the lungs, and you will have a striking contrast in the two colors.

15. In slow asphyxiation the system becomes used to the toxic gases; the animal heat is reduced; vital functions are partially suspended, as in hibernating animals.

This may be plainly shown by keeping a bird in an air-tight vessel for an hour or more, and then putting in a second bird with the first. The new bird will appear quite distressed and die in a few minutes, while the bird, slowly accustomed to the poisonous gas it has generated, will fly away briskly after its mate is dead. This shows with the positiveness of experiment a fact of which we are all conscious: when we go from pure air to a close room we detect the odors and feel a discomfort not experienced in those rooms whose emanations have not devitalized the atmosphere.

These experiments may help teachers to illustrate the functions of respiration and circulation, which are simply to keep in motion and in a healthy condition the rivers of blood which are the life of the body. The blood is no stagnant pool, but a vital tide which rises and falls every second, and is swept by our breath twenty times each minute. One-tenth of our weight, it rushes through the heart twice each moment; to retard its flow by lack of exercise or bonds of fashion, is disease; to arrest it, is death. Let the pure air of heaven mingle with the blood, and it feeds the white brain with one-sixth of its volume each time it surges round the body, and art, music, poetry, and eloquence are begotten of it.

In another paper will be given some experiments illustrating the action of the absorbent, digestive, and nervous systems.

#### CONSTITUTION AND BY-LAWS OF THE INTERNATIONAL SOCIETY FOR INVESTIGATING AND PROMOTING THE SCIENCE OF TEACHING, INSTITUTED AUGUST 15th, 1879.

##### CONSTITUTION.

ART. I.—This organization shall be known as the International Society for Investigating and Promoting the Science of Teaching.

ART. II.—Its objects being strictly professional, its membership will be confined to the following classes:

(a) Persons employed to instruct teachers in professional schools.

(b) Superintendents, commissioners, and other officers whose main occupation is the inspection of schools and licensing of teachers.

(c) Persons who by authorship, public addresses, or eminent success as educators have given proof of their interest in the science of teaching.

ART. III.—Any person thus eligible may become a member on the following conditions :

(a) He shall make application to the Corresponding Secretary, who shall refer the case to the Membership Committee and report the name of the applicant to each member of the Society at least one month before the annual meeting.

(b) Upon unanimous report of this Committee his name shall be proposed at the first session of the Annual Meeting of the Society after application, and a three-fourth vote by ballot of the members present shall be required for election.

ART. IV.—The person so elected shall be immediately notified by the Corresponding Secretary, and upon payment of an entrance fee of Twenty Dollars he shall be constituted a member of this Society. Thereafter his dues shall be Ten Dollars a year, to be paid to the Secretary on or before the first day of the Annual Meeting. A delay of three months in paying the annual dues shall forfeit membership, and the name if again proposed must be treated as that of a new member.

ART. V.—The officers shall be a President, Recording Secretary, Corresponding Secretary and Treasurer, and three Committees: Executive, Finance and Membership, each committee composed of three members.

(a) The President shall be ex officio a member of all committees, and shall have charge of all matters connected with the Society not hereinafter specially assigned.

(b) The Recording Secretary shall be elected annually, and shall keep a minute record of the proceedings of every meeting of the Society, transcribing and editing the notes of the shorthand reporter, if one be employed. He shall have general charge of publishing the annual report, subject as to the business details to the Finance Committee, and submitting the entire Report before printing to the Executive Committee for revision and suggestions. As he receives the proof he shall send to each speaker that portion which contains his own remarks, and shall allow three weeks for corrected proof to be returned, provided, however, that any alterations of the text from that read or spoken by the speaker at the meeting in question, and not already corrected by him, shall be made in the proof at the speaker's expense.

(c) The Corresponding Secretary, who shall also be the Treasurer, shall keep an accurate record of the membership, including change of post office address, and shall forward all circulars issued by any of the officers or committees to the members. He shall be the custodian of all funds belonging to the Society, giving bonds for one thousand dollars upon sureties approved by the Executive Committee, and paying out money only upon orders signed by the President and at least one other member of the Finance Committee. Upon the first day of each annual meeting, he shall present a minute report, accompanied by vouchers, of every amount paid out during the year, and shall put into the hands of the Finance Committee a certificate of deposit showing that the balance due the Society is held subject to order by a bank approved by the Finance Committee.

(d) For each of these Committees three members shall at the first meeting be elected by ballot, and the three on each Committee shall immediately choose by lot one member to serve three years, one to serve two years, and one to serve one year. Thereafter one member shall be elected each year, upon each of the Committees to serve one year, and such other members as may be needed to supply vacancies by death or otherwise.

ART. VI.—(a) The Executive Committee shall, on or before the first day of April of each year, fix upon the time and place of meeting for that year, notifying each member by the Corresponding Secretary. They shall also have general charge of the programme which shall be determined, and every member notified thereof, by the first day of January immediately preceding.

(b) The Finance Committee shall have sole authority to incur indebtedness for the Society and to audit accounts. To make any indebtedness binding upon the Society, or any bill payable by the Society, the vote of the majority of the Finance Committee, of which the President shall be one, shall be required.

(c) The Membership Committee shall prepare suitable blank forms, to be filled by the applicant for membership, shall care-

fully investigate all applications, and, whenever they report in favor of an applicant, they shall present with their report a minute history of the educational work done by him.

ART. VII.—By-laws may be adopted or amended at any regular session of the Annual Meeting by a three-fourths vote of the members present, provided that notice of the amendment shall be given at the previous Annual Meeting.

#### BY-LAWS.

NOTE.—The following by-laws are adopted provisionally by the Executive, to be approved or amended by the Society at its first annual meeting.

#### I. Papers to be Prepared.

1. Subjects for papers each year shall be so arranged as to present a consecutive view of the science of education.
2. Persons chosen to write papers shall receive their subjects not later than the first day of January.
3. No papers shall occupy more than one hour in delivery.
4. The papers shall in every case be propositional in form.
5. Each paper shall have appended to it an analytical outline.
6. The analytical outline shall be printed by the author, and a copy sent to each member of the society not later than the first day of January.

#### II. Discussion of Papers.

1. Members on receipt of the analytical outlines of the papers to be presented, shall select the points, they propose to discuss and report the same to the Recording Secretary at least one week before the annual meeting.
2. The Society shall hold members bound to prepare themselves for the discussion at the annual meeting of the points which they reported to the Recording Secretary.
3. Each paper shall be taken up and discussed in the following order :
  - (a) Reading of paper.
  - (b) Discussion of points in the order in which they occur in the paper by members who have reported their names to the Recording Secretary for such discussion.
  - (c) Discussion by other members.
  - (d) Reply by the author of the paper.
  - (e) The adoption, amendment, or rejection of the propositions and details of the paper.
4. Only one paper shall be read and discussed each day.

#### III. The Publication of Transactions.

1. Each paper read and discussed before the Society shall be published without material change in the annual report.
2. All discussions shall be recorded in full, and included in the annual report, subject to the following conditions :
  - (a) Each member shall be furnished with a copy from the short-hand report of his discussions for revision and correction.
  - (b) No member shall be allowed, in revising and correcting his discussions, to make material changes.
  - (c) New matter may be added by any member to his discussions and incorporated in the annual report at his own expense. Such matter shall be noted as new, and shall be subject to the approval of the Executive Committee.
  - (d) Each member shall be furnished with a copy of the printer's proof of his paper and discussions before publication of the annual report.
3. In all publications of the transactions of the Society, the authorship of all papers, discussions, propositions, resolutions, or other matter, shall be accurately indicated.

#### OFFICERS FOR 1879.

President—J. H. Howe, Ph.D., Principal Normal School, Cortland, N. Y.

Recording Secretary—J. H. McFaul, Principal Model and Public Schools, Lindsay, Ont.

Corresponding Secretary and Treasurer—S. P. Robins, M.A., Inspector Protestant Public Schools, Montreal, Quebec.

Executive Committee—Rev. D. H. McVicar, LL.D., Principal Presbyterian College, Montreal, Que. ; M. McVicar, LL.D., Principal Normal School, Potsdam, N.Y. ; James Hughes, Inspector Public Schools, Toronto, Ont.

Finance Committee—T. B. Stowel, M.A., Science Master Normal School, Cortland, N.Y.; C. A. Babcock, M.A., Science Master Normal School, Fredonia, N.Y.; W. Mann, M.A., Science Master Normal School, Potsdam, N.Y.

Membership Committee—Dr. Hunter, M.A., Principal of Normal School, New York City, N.Y.; James Hughes, Inspector Public Schools, Toronto, Ont.; C. W. Bardean, M.A., Editor School Bulletin, Syracuse, N.Y.

PERSONALS.

Mr. J. W. Graham, formerly teacher in the Lindsay Schools, has been promoted to be head master of the Collingwood Public Schools.

Mr. Arthur A. Clappe, of Ottawa, has been appointed musical instructor for the Sarnia Schools, at a salary of \$300 per annum.

Mr Cassidy, who received nearly two hundred marks more than any other candidate at the recent First Class Teachers' Examination, is on the occasional staff of the Toronto Public School Board.

Mr. W. Colles has been appointed Principal of the Morrisburgh Model School.

Notes and News.

ONTARIO.

Listowel High School has over ninety pupils on the roll. A teachers' professional library is to be established in Berlin. Mr Oberholtzer has been appointed librarian.

Four of the Toronto Public Schools were enlarged during the vacation.

The services of the Mathematical Master and Book keeping Master in the Ottawa Normal School have been dispensed with. This is owing to the fact that the Toronto Normal is equal to the task of training all candidates for first class certificates who present themselves. The training of second class teachers can be efficiently performed by the reduced staff.

The calendar of the Protestant Episcopal Divinity School of Toronto is just out. The School is in affiliation with the University of Toronto, and its students are required to attend such lectures as the Faculty may require. There are now fifteen students attending the School, which has just been incorporated. The Lord Bishop of Toronto is Visitor, and Rev. J. P. Sheraton, B.A., Principal.

Many schools have established Museums of Natural History, &c. A high degree of interest may be evoked in them, and by them; and much information given by the collections made.

The following contributions have lately been made to the museum in Woodstock:—A collection of fossils from the neighborhood of Woodstock, by Messrs. Abner and Ralph Trotter; specimens of field coral brought in by Dr. Jones as a present from Miss Jane McQuarrie; a collection of Canadian flora, named and classified by Mr. Hugh Wilson, P.L.S.; a coin and peculiar specimen of rock, by Mr. John Rogers; a collection of shells and agates, by Mrs. J. Reid.

The Brantford Collegiate Institute was opened formally at the beginning of the term with appropriate ceremonies. The citizens take a great interest in their Institute.

The following quotations from the report of Mr. J. Johnston, Inspector of Schools in South Hastings, will be of interest.

SALARIES.

Trustees and ratepayers are not slow to appreciate the services of energetic teachers, and they are always willing to pay them well.

The highest salary paid male teachers in Sidney	\$500 00
Average salary	450 00
"    "    female	280 00
Highest "    male, Thurlow	500 00
Average "    "    "	413 00
"    "    female, "	275 00
Highest "    male, Tyendinaga	475 00
Average "    "    "	415 00
"    "    female, "	260 00
Highest "    male, Hungerford	550 00
Average "    "    "	389 00

Highest "    female, Hungerford	\$240 00
"    "    male, Trenton	500 00
"    "    female, "	350 00
Average "    "    "	275 00
Highest "    male, Mill Point	550 00
Average "    female, "	300 00
Highest "    male, Separate School	500 00

It is sometimes stated that our school system is expensive, but I think the reverse is true, as the following will show: taking all the children enrolled on the registers, the cost per head of the whole division, including Trenton and Mill Point, is \$5.12½; being 7½ cents per pupil less than the previous year.

Since my connection with the schools in 1871, no less than forty-eight houses have been built, the grounds fenced, and all the schools are well supplied with tablets, maps and blackboards.

To have good schools, we must have good teachers; for without these the youth of the country will not receive that thorough training necessary to fit them for the important duties of after life. Everything that can be done to raise the standard of teaching, and improve the young and inexperienced teacher, should have from the intelligent people of the country that encouragement it deserves. As the meetings of the South Hastings Teachers' Institute have done much to improve the teachers, they are still continued.

I wish I was able to report greater care in keeping in good condition the grounds and outbuildings of many schools. In some sections this is carefully attended to, but in many there is lack of proper attention to cleanliness in the school-room and premises.

I hope the trustees will in future endeavor to beautify the grounds by planting shade trees. This has been done in a few sections, to the gratification of the teacher and scholars.

The next meeting of the County of Ontario Teachers' Association will be held at Uxbridge on Friday and Saturday, October 17th and 18th. Dr. McLellan will be present both days, and give a public lecture on the evening of the 17th.

QUEBEC.

No little inconvenience has been already caused and hardship suffered in the matter of education, as well as of other interests, by the present dead-lock in the Government of this Province. The meeting of the Protestant Committee of the Council of Public Instruction, which should have been held on the 4th September, for the appropriation of the annual grants to Universities, Colleges, Academies and Model Schools, had to be indefinitely put off, because the Legislative Council refused to pass the Supply Bill. The grants from the Fund for Superior Education are made annually, and paid to the Institutions entitled to them up to the 1st of July in each year. The annual returns from such Institutions for the Scholastic year ending 1st July are laid before the Committee of the Council of Public Instruction, and after a careful examination of these as well as of the Inspectors' returns the grants to the several Institutions for the past year up to said date are determined by the respective Committees, Catholic and Protestant. The grants for Superior Education have of late years been paid about the 1st November, but in the present state of matters there is reason to fear that the payments cannot be made before the new year. The Common Schools are similarly affected by the dead-lock.

In McGill University the matriculation examinations as well as those for Exhibitions and Scholarships in Arts and Applied Sciences were held from the 16th to the 19th September inclusive, and the lectures in these departments began on the 22nd of the same month.

In the Board of School Commissioners, Montreal, the Rev. Dr. MacVicar, late Chairman, has been replaced by the Rev. Canon Norman, the position of Chairman being not yet filled.

In the High School for boys, Montreal, the Rev. Mr. Rexford has been appointed assistant head master, while Mr. R. W. Boodle, B.A., Oxon, is elected one of the assistant masters and Dr. Haas takes the place of Mr. Fuchs as teacher of German.

In the High School for girls, Montreal, Mrs. Thrower has been appointed teacher of vocal music in room of Dr. Davies, who has left the city, while calisthenics have been put under the able direction of F. S. Barnjums, Esq.

A new Protestant Dissident School is going to be erected in Hochelaga at a cost of about two thousand dollars, the material to be brick, and the dimensions such as to be sufficient for the people for a long time to come. As the present lot is too small, the purchase of an adjoining piece of ground is contemplated, and, if secured, will furnish abundance of yard and exercise ground for the children.

The Provincial Association of Protestant Teachers for the Pro-



vince of Quebec will hold their sixteenth Annual Meeting in the City of Quebec on the 15th, 16th and 17th October, when doubtless several valuable papers on educational subjects will be read and discussed. The President for the current year is Dr. H. H. Miles, of the Department of Public Instruction, Quebec.

During the last Session of our Provincial Parliament some of the Protestant School Commissioners of Montreal brought under the notice of the Cabinet the question of the application of the School Tax paid by Protestant Corporations. It is held that the tax on neutral property is unfairly divided, and that Protestants do not receive their fair share.

#### NOVA SCOTIA.

The King's County Teachers' Association, referred to in the notes for September, was organized with the following officers:—*President*—C. W. Roscoe, Inspector; *Vice-President*—A. S. McDonald, Principal of Kentville High School; *Secretary and Treasurer*—G. J. Miller, Principal of Canning High School; *Committee of Management*—C. F. Rockwell, L. D. Bobinson, Miss R. Kinsman, Miss A. Pines. The formal proceedings began with a lucid and interesting address from the President on the objects of the Association. During the forenoon session the Superintendent of Education and the Principal of the Normal School were introduced, and delivered short addresses in recognition of the warm welcome accorded them. The attendance was very large. Nearly sixty teachers in actual service enrolled themselves at the outset. This number was increased during the day. The afternoon proceedings began with the reading of "Hints on Teaching Arithmetic," by Professor Caldwell, of Wolfville Seminary, followed by an address on the same subject by A. McN. Patterson, A.M. Professor Caldwell dealt in a very able manner with modern modes of arithmetical working, and in the course of his remarks paid a high compliment to Hamblin Smith's works. Mr. Patterson unfolded the philosophy of teaching arithmetic to junior students most interestingly. After a few remarks from Principal Calkin, the discussion of the subject was postponed to allow time for Professor Tufts to discuss the methods of teaching History. The Professor gave a singularly effective exposition of his methods, accompanied by a diagram illustrating the great streams of Greek History. The Historical exercises were followed by a brief but profitable discussion. In the evening, "Scotia" Hall was crowded with a select audience to hear the lecture by the Superintendent of Education. Dr. Allison's address was of a practical character, dealing with the fundamentals of popular education. The organization of Associations and the general progress of education were referred to, and the necessity of the sympathetic co-operation of all classes was insisted on. It was shown that more than ever good teachers are required to ensure really efficient schools. Great attention was manifested during the delivery of this address, and at its close a vote of thanks was unanimously passed to Dr. Allison. Brief addresses followed by several prominent gentlemen. The exercises of the second day were of great interest, and attracted the attention of the outside public, many of the prominent residents of Kentville being close observers of the proceedings throughout. Papers were read by J. A. Davis, A.B., G. J. Miller, J. N. McKittrick, and R. Eaton. The discussions were earnest, and evinced much familiarity with educational subjects, as well as capacity for debate on the part of the teachers taking part therein. The Superintendent of Education and the Principal of the Normal School were in attendance until the close of the proceedings. The former official congratulated the inspectors and the teachers present on the great success of the meeting.

The Teachers of Cumberland County are taking steps for holding a Teachers' Association, under Provincial regulation, during the month of October.

Mr. Fletcher, the newly elected Professor of Classics in the University of New Brunswick, was formerly Principal of the Academy in Yarmouth, N.S.

Mr. Samuel Archibald, formerly of the Education Office, is reported to be engaged in extensive farming operations in the vicinity of Winnipeg, Manitoba.

The public are awaiting with some interest the appointments about to be made in the Normal School, Truro.

Herbert Bayne, A.M., Ph.D., Mathematical Master of the Halifax High School, has been appointed by the Dominion Government Professor of Chemistry and Physics in the Military College, Kingston. The chair in the High School thus rendered vacant has been applied for by some thirteen or fourteen instructors, quite a number of whom are educationists of considerable repute.

The published Pass List of the Second B., Oct., Examination of the Halifax University contains the name of Alexander H. McKay, the distinguished Principal of Pictou Academy. Mr. McKay passed in the first division with high honors.

The following announcements have been made regarding the Matriculation Examinations of Halifax University:—*Pass List* (arranged in order of proficiency).—1. Robert M. Langille, Pictou Academy; 2. William V. Page, St. Mary's College, Halifax; 3. Gordon Hill, Pictou Academy; 4. Daniel MacLennan, Pictou Academy; 5. James Alexander Moren, Halifax High School; 6. Alexander J. Primrose, Pictou Academy. *Prize List*.—Chancellor's Gold Medal, Robert M. Langille; Second Prize, William V. Page; Third Prize, Gordon Hill.

#### NEW BRUNSWICK.

The third annual meeting of the Educational Institute for the Province was held at the Normal School, Fredericton, on the 19th, 20th and 21st of August. There was a good attendance of Teachers and others connected officially with the Public School system, representing nearly every county in the Province, all of whom must have felt amply remunerated for whatever it cost them to be present. In fact this Provincial Institute has come to be a body of such importance, and its proceedings are of so interesting and salutary a character, that no teacher who desires to maintain a worthy place in the profession can afford to be absent from its meetings.

The inaugural address was delivered by Dr. Jack, President of the University, on the subject of "The Teachers' Profession." The greater part of two sessions was devoted to the discussion of a Course of Instruction prepared and submitted by a Committee of which Principal Crocket was Chairman. The report, including the course or rather the courses of instruction, was unanimously adopted by the Institute. James Fowler, M. A., Instructor in Natural Science in the Normal School, read a valuable paper on "The Study of Plant Life as a Means of Mental Culture." J. A. Freeze, B. A., Principal of the St. Stephen High School, read a paper on "The Place of Written Examinations in Schools," which gave rise to an exceedingly interesting discussion. At the opening of the fifth session, the Institute was divided into two sections, the bulk of the members remaining in the Assembly Hall for the purpose of witnessing illustrative lessons given by the Instructor in the Normal School, while the Inspectors, Superintendents, Principals in Graded Schools and other school officers withdrew to another room for the purpose of discussing certain questions of organization, etc. In the first section, Miss Clark gave a lesson in reading; Miss Gregory conducted an exercise in English literature; Mr. Fowler, in a lesson on minerals, showed how pupils may be led to find out for themselves the distinctive qualities of natural objects; and Mr. Craed gave a mathematical lesson, on the subject of Geometrical Loci. There was an object lesson on ferns, given by Mr. James Vroom, one of the student-teachers.

In the official section, Mr. W. G. Gaunce, A.B., Principal of the York street schools, Fredericton, introduced the discussion on the promotion of Pupils in graded schools, in the course of which many valuable suggestions were brought out. A paper on the granting of certificates to pupils on the completion of advanced and High School courses was read by Mr. Ingram B. Oakes, A.M., of Chatham, and was followed by a short discussion. It was voted that the Executive Committee bring before the Board of Education the questions of preparing and issuing suitable certificates for that purpose.

At the first session of the Institute, the Executive Committee reported an order to the Board of Education empowering the Education Institute, on the recommendation of its Executive Committee, to confer honorary membership upon any persons not entitled to membership under the regulation. The Institute at once took action under this authority, by conferring honorary membership upon the Hon. George E. King, late Premier of New Brunswick, to whom the Province owes its present admirable School Law; upon the Hon. Judge Fisher, D.C.L., who held the same position many years ago, and was instrumental in introducing a system of public schools into the Province; and upon William Elder, Esq., A.M., M.P.P., to whose efforts the country is largely indebted for the erection of the new Normal School in which the Institute holds its meetings. These three gentlemen were present subsequently by invitation, and by their addresses in returning thanks for the honor done them, added much to the interest of the meeting.

At the closing session, on the Thursday evening, there was a



large audience, filling the Assembly Hall. Mr. Creed, of the Normal School, read a paper on "The Value of Pictorial Illustrations in School Instruction," which was followed by an exhibition of a variety of views projected by the stereopticon. Mr. John Babbitt managed the instrument, and Mr. Creed explained the views, thus closing the Institute with a most pleasing and instructive entertainment.

The Executive Committee submitted a series of resolutions, of which the most important were the following:—

"That this Institute recommends teachers to bring before their Trustees the importance of having bound for permanent preservation the copies of the Educational Circulars which have been furnished by the Board of Education."

"That it recommend to teachers the observance of Regulation 23, relating to school visitations and to county institutes, and would urge the importance of every teacher becoming a member of this Institute."

"That it expressed its approval of the provisions made by the Legislature at its last session relative to inspection, and earnestly to express the hope that the Board of Education will not commission any persons to officially determine the quality of school work or the standing of the schools who have not had enlarged practical acquaintance with the profession."

"That this Institute earnestly affirms the vital importance of the efficient work of the elementary schools, of the proper maintenance of existing high schools, and re-affirms its resolution of last year recommending the early adoption of the suggestions of the Chief Superintendent as contained in its published reports relative to secondary education."

The resolutions were unanimously adopted.

The officers of the Educational Institute are as follows:—President, T. H. Rand, M.A., D.C.L., Chief Superintendent of Education, *ex-officio*; Secretary, H. C. Creed, M.A.; Assist. Secretary and Treasurer, G. U. Hay, Esq. Executive Committee—(1) *Ex-officio* Members: W. Brydone Jack, D.C.L., President of the University; William Crocket, M.A., Principal of the Normal School; Prof. Thomas Harrison LL.D., Prof. Loring, W. Bailey, Ph.D., and Prof. G. E. Foster, B.A. (2) Elected Members: G. U. Hay, J. A. Freeze, B.A., D. McIntyre, R. M. Raymond, B.A., G. W. Mersereau, M.A., and John Lawson.

The Restigouche County Institute held its third annual meeting at Armstrong's Brook on the 4th and 5th of September. Rev. Mr. Nicholson, the painstaking Inspector, occupied the chair. Nearly all the schools in the County were represented, and the proceedings were of a very gratifying character. The district school, in charge of Mr. J. G. Noble, being in session, by previous arrangement, advantage was taken of its classes in the way of illustrative lessons before the Institute. Lessons in reading were given by Mr. Noble, Miss C. Doyle and Miss Lizzie A. McNair; in grammar by Mr. McLearn; in chemistry by the Inspector, in mental arithmetic by Mr. John Lawson; and an object lesson by Miss Mary McMillan. There were also papers and addresses by Mr. A. Ross, B.A., on "How to teach Geology;" by Inspector Nicholson on Astronomy; by Miss Doyle on Map Drawing; by Mr. E. Carney on "Composition in Schools," and an essay on "Recreation for Teachers," by Mr. John Lawson. The election of officers and Committee resulted as follows.—Inspector Nicholson, President; A. Ross, B.A., Vice-President; A. G. Noble, Secretary-Treasurer; Miss C. Doyle and Miss Mary McMillan, additional members of Committee of Management.

The Kings County Teachers' Institute met at Sussex on the 11th and 12th of September, with a large attendance of teachers. Being unable to secure the services of any of the educational staff at Fredericton at that season, the Executive Committee had engaged Prof. Burwash, of Mount Allison College, to give instruction in Reading, and Mrs. Allen, of St. John, to give lessons in Drawing. These formed an important part of the work of the Institute. Papers on various subjects were read by Messrs. J. R. Mace, Eldon Mullin and W. C. Burnham. The Officers and Committee were elected as follows.—O. P. Wetmore, Esq., President; Mr. F. H. Hayes, Vice President; Mr. Wm. E. Horbrook, Secretary-Treasurer; Miss Alice Lawson and Miss Jennie E. Murray.

The Teachers' Institutes for Northumberland and Albert Counties were advertised to meet on the 2nd and 3rd October, the former at Newcastle and the latter at Hillsboro'. Dr. Rand was to be at the latter place and Principal Crocket at the former.

In view of the provision of the Law by which section 13, relating to Inspection, will become operative on the 1st of November next, it is expected that new Inspectors will be at once appointed. Courses

of instruction adapted to the requirements of the various classes of graded and ungraded schools will in all probability be prescribed at the same time.

At the semi-annual examinations of candidates for licence, held on the 16th of September and following days, one hundred and twenty-seven persons presented themselves. One hundred and sixty of these were examined at Fredericton, and the remainder at St. John and Chatham. They worked for the respective classes as follows: 13 for the Grammar School Licence (including L. B.A.'s), 15 for first class, 113 for second class, and 36 for third class.

REV. CHARLES G. COSTER, PH.D.—We regret much to learn that the death of this much esteemed gentleman is reported at Newark, N.J., Sept. 2nd. It having occurred on his way back to St. John from New York, to which place he had gone for medical treatment, the full particulars have not reached us. Dr. Coster, who was a clergyman of the Church of England, was formerly teacher of classics at the Collegiate School, Fredericton. He subsequently became classical master and afterwards Principal of the Grammar School in this city, in which he was extremely successful, performing his duties with great zeal. Indeed, he worked too hard and took too little recreation. For some time past Dr. Coster has been in ill-health. Lately he had a vacation given to him by the Directors of the Grammar School, by the approval of the St. John School Trustees. In private and social life Dr. Coster was one of the most amiable of men. He was a sincere friend and high-toned gentleman, as well as a most accomplished scholar. We deeply sympathize with his family in their sad bereavement.

Another gentleman connected with the school service of St. John died last month, namely, James H. Moran, Esq., of the St. John Board of Trustees. He was appointed to the position by the Governor-in-Council in 1878.

#### MANITOBA.

At the semi-annual examination of teachers for the Protestant schools of the province, which commenced on 12th ult., there were three candidates for first class certificates, fourteen for second, and twenty-seven for third, and the total number of successful candidates in all three classes was forty-one.

An examination of teachers in connection with the Roman Catholic section of the Board of Education took place on the same day, the examiners being Rev. Dr. Lavoie and Mr. E. W. Jarvis.

The public schools throughout the province have re-opened after the summer vacation. Miss Torah has received the appointment of teacher in the North Ward school, Winnipeg, rendered vacant in consequence of Miss Hinell's withdrawal from the profession.

There was a quarterly meeting of the Board of Education on 4th Sept., but the business was of a formal nature.

The annual meeting of Convocation was held on the 4th ult. The Chancellor (the Bishop of Rupert's Land) occupied the chair, and Mr. E. W. Jarvis, Registrar, acted as Secretary. The following members of Council were present, viz.: The Chancellor, the Archbishop of St. Boniface, the Registrar, Archdeacon Cowley, Revs. John Black, D.D., Professors Hart and Bryce, Canons Grisdale and O'Meara, Rev. Messrs. Cherrier, Pinkham, Dugast, Robertson, Fortier, S. P. Matheson and Dr. Lavoie; Hon. J. Dubuc, M.P., Dr. Cowan and J. A. N. Provouche, and the following delegates, viz.: J. O'Reilly, W. B. Thibaudeau, Dr. O'Donnell, R. Bourne, Hon. S. C. Biggs, Rev. E. Morrow and J. M. McDonnell. Convocation is entitled to elect annually three graduates to represent it on the Council of the University. The election was by ballot, Hon. S. C. Biggs and Prof. Bryce being scrutineers, and resulted in the re-election of the three gentlemen who have represented it from the first, viz.: W. Cowan, M.D.; J. F. Bain, B.A., and Mr. J. F. German, M.A. At the quarterly meeting of the Council held subsequently the Hon. Joseph Royal, LL.D., M.P.P., was unanimously re-elected Vice Chancellor. Reports from the various colleges were presented, giving the names of the representatives elected to serve on the Board of studies as follows: St. John's—the Bishop of Rupert's Land and Canon O'Meara; St. Boniface—Rev. Dr. Lavoie and Mr. Forget; Manitoba—Professors Bryce and Hart. The Council then elected as its representatives on the Board, Rev. J. F. German and Mr. J. F. Bain. The amendments to the Statute which had been prepared in order to be submitted at the last meeting of the Legislature were remitted to the Committee on Legislation in order to receive further consideration. A resolution was adopted instructing the committee charged with the question of the affiliation of the Trinity Medical

School to confer with the Law Society with the view of bringing the law examinations into greater harmony with the University course.

Mr. Robert Machray, student of St. John's College, the silver medallist in the recent University examination, has gone to Sydney Sussex, Cambridge. He is a young man of unusual promise.

A fine new building in connection with St. Boniface College is being erected, and will shortly be ready for occupation.

### Official Department.

On the recommendation of the Minister of Education, amended regulations have been approved of by the Lieutenant-Governor in Council with reference to the following subjects, on which experience has shown that certain modifications and changes should be made:—

(1) With reference to the Intermediate Examinations, which are now to be held yearly in July, instead of half-yearly, the passing is to be determined upon questions on each subject, not with reference to any high standard for competitive examination, but solely to ascertain whether the candidate has acquired a fair knowledge of each subject so as to be qualified or not for the upper school, having regard for his proficiency in answering questions reasonably framed for this purpose in each subject. The standard of marks is 20 per cent. on each subject, and 40 per cent. on the group. The passing of the Intermediate Examinations is to be taken as equivalent to passing the non-professional examination for a third class teacher's certificate.

(2) Candidates who, besides fulfilling the above conditions, obtain 50 per cent. of the whole number of marks obtainable, will be deemed to have passed the non-professional examination for second class teacher's certificate, Grade "B" while those who obtain 30 per cent. on each subject and 50 per cent. on the group and 60 per cent. of the aggregate of total marks, will be considered as having passed the non-professional examination for second-class certificates, Grade "A." The examiners are instructed not to extend the standard of their questions any higher than they at present attain.

(3) As to first class certificates, there is to be a non-professional examination for grade "C" separate from that for First "B" or First "A," and all candidates must take that for Grade "C" before being eligible for Grade "B" or "A." The subjects for Grade "C" come within the departments of English Language and Literature, History and Geography, Mathematics, Elementary Mechanics and Physical Science. Candidates for First "A" or First "B" may take options, being allowed to select any one of the following groups of subjects: (a) English Language and Literature, with History and Geography, (b) Mathematics, (c) Physical Science, but each candidate must be examined by one of the authors in the English Literature course.

(4) Candidates for third-class certificates must, after passing the non-professional examination, attend for one session at least at a County Model School, for professional training, and pass a satisfactory examination therein, when, if proved to be at least 18 years of age, if a male, or 17 if a female, the candidate may receive a third class certificate.

(5) All candidates for second-class certificates must attend for one session one of the Provincial Normal Schools, for professional instruction, and successfully pass the examination therein. Public School teachers who have successfully taught for at least three years before the 18th August, 1877, are exempt from this condition.

(6) Candidates for first-class certificates shall attend for one year at one of the Normal Schools after obtaining a second-class certificate, and shall pass the requisite examination; but attendance at one of the Normal Schools is dispensed with in favour of a candidate who has successfully taught two years on a second-class certificate, and who has passed the required examination. Any person who possesses the qualifications of a High School Head Master is regarded as qualified to be the Head Master of a Public School, not being a Model School.

(7) The inspection of County Model Schools is in the future to be placed under the Public School Inspector, or Inspectors having jurisdiction within the County or sub-division of the County in which the Model School is situate. He is entrusted with the duty of organizing it at the beginning of the term, and he is also to direct and assist the Principal in the classification of the students and other necessary work. In cases where the County Model School is situate in any city or town, the Public School Inspector of any such city or town shall act jointly with the County Inspector or Inspectors, and shall have the like duties and jurisdiction. Each Model School is to be visited by the Inspector twice in each term, when he may exercise the like authority as in inspecting Public Schools, and shall receive the like remuneration, and is to report annually in December to the Education Department. In order to secure a uniform standard and systematized operation of the County Model Schools, as well as to afford special information to County Boards, Public School Inspectors, and Principals (where necessary), in regard to the conduct of such schools, and other matters relating thereto, the Minister of Education will, through the members of the Central Committee of Examiners, extend an oversight and supervision over

County Model Schools, with the express object of enabling them the better to fulfil their functions as local institutions for the training of Third-Class Teachers.

(8) The Normal Schools at Toronto and Ottawa are to be respectively inspected at least once in each of the three sessions of the academic year, and this duty is to be discharged by such two of the members of the Central Committee as the Minister may appoint for this purpose, who are to report to him the result of each inspection, and any material circumstances connected with the working of either of such Normal Schools.

1. In conformity with the provisions contained in section 58 of the Dominion Act, 31 Vic., chap. 40, and the General Orders of the Militia Department at Ottawa, dated 25th July, 1879, associations or companies for the purpose of drill are authorized to be organized, under the Militia Department, in certain educational institutions of the Dominion the number in the Province of Ontario being limited to 34, and to Universities, Colleges, Normal and High Schools.

2. These Companies will be instructed in Military Drill and Training only, and will not be employed in active service.

3. Rifles and accoutrements will be furnished where the Company in each institution is not less than 40 of the regular students therein.

4. The services of a drill instructor will be supplied by the Dominion Government for one month in each year, divided into two parts if desirable, and at such times as will be suitable to the circumstances of each Company and the convenience of the institution.

5. Each institution desirous of taking advantage of this Act should make application to the Adjutant-General's Department, through the Deputy Adjutant-General of the district within which the Institution is situate, and may now be made as soon as convenient.

6. The Deputy Adjutant-General will furnish such further information as may be desired.

7. The importance of this subject, and the advantages thus offered to the schools under this Department, make it desirable that the necessary action should be taken at once by those whose circumstances will permit of a compliance with the conditions of the regulations of the Militia Department.

ADAM CROOKS,

Toronto, September 24th, 1879.

Minister of Education.

### SUBJECTS FOR THE NON-PROFESSIONAL EXAMINATIONS FOR FIRST-CLASS CERTIFICATES.

#### I.—FOR GRADE G.

##### English Language and Literature.

*Grammar.*—A thorough acquaintance with the subject will be required.

*Composition.*—Candidates will be required to show, by passing an examination in this subject, and by the character of their answers in other subjects, that they are in the habit of writing the English language correctly.

*Etymology.*—Candidates will be required to know the prefixes, the affixes, and the principal Latin and Greek roots, and to be able to analyse etymologically the easier words in the reading books.

*Literature.*—Candidates will be required to have a general acquaintance with English literature and its history, and a fuller knowledge of special eras and authors to be prescribed from time to time by the Department.\*

##### History and Geography.

*History.*—A special knowledge of the History of England between 1688 and 1820, as presented in Green's Short History of the English People, and in Hallam's Constitutional History, chapters 15 and 16.

*Geography.*—North America, Europe, and the British Empire.

##### Mathematics.

*Algebra.*—Fundamental operations; Involution and Evolution; Resolution into Factors; Principle of Symmetry; Theory of Divisors; Fractions; Ratio, Proportion, and Variation; Theory of Indices; Surds; Arithmetical, Geometrical, and Harmonical Progression; Scales of Nota-

\* The subjects prescribed for the examination in 1880 are—

Julius Cæsar—*Shakespeare.*

An Elegy in a Country Churchyard—*Gray.*

The Traveller—*Goldsmith.*

The Spectator—Papers 166, 108, 112, 115, 117, 121, 122, 123, 125, 126, 131,

139, 329, 335, 517—*Addison.*

Johnson's Life of Addison.

Macaulay's Life of Johnson.

No particular editions of these texts are prescribed, but the following good ones are mentioned in order to aid candidates:

The edition of Julius Cæsar in the Clarendon Press series.

Morley's Spectator.

Matthew Arnold's Johnson's Chief Lives of the Poets. This contains both Johnson's Life of Addison and Macaulay's Life of Johnson.

tion; Permutations and Combinations; Introduction to Binomial Theorem; Simple and Quadratic Equations, with relations between Roots and Coefficients, Problems.

*Arithmetic and Mensuration*.—To know the subject in theory and practice. To be able to solve problems with accuracy, neatness, and despatch. To be familiar with rules for Mensuration of Surfaces and Solids.

*Geometry*.—Euclid Books I. to IV. (inclusive), Book VI., and definitions of Book V. Exercises

#### *Elementary Mechanics.*

*Statics*.—Equilibrium of Forces acting in one Plane; Parallelogram of Forces, Parallel Forces, Moments, Couples, Centre of Gravity, Virtual Work, Machines, Friction, Experimental Verifications.

*Dynamics*.—Measurement of Velocities and of Accelerations; Laws of Motion, Energy, Momentum, Uniform and Uniformly Accelerated Motion, Falling Bodies, Experimental Verifications.

*Hydrostatics*.—Pressure of Fluids, Specific Gravities, Floating Bodies, Density of Gases as depending on Pressure and Temperature, Construction and use of the more simple Instruments and Machines.

#### *Physical Science.*

*Chemistry*.—Definition of Chemistry and of chemical action. Indestructibility of matter. Simple and compound substances. Laws of chemical nomenclature. Symbolic and graphic notations. Classification of elements into metals and non-metals, into positive and negative elements.

Theory of atoms and molecules. Empirical, molecular, and constitutional formulæ. Absolute, latent, and active atomicity. Classification according to atomicity. Atomic and molecular combination. Graphic formulæ. Definition of simple and compound radicals. Chemical equations.

French and English systems of weights and measures. Their convertibility. Expansion of gases by heat. Reduction of gaseous volume to standard pressure and temperature. Calculation of the weight and volumes of gases. Calculation of chemical quantities by weight. The crith and its uses. Calculation of empirical formulæ from per centage composition.

The preparation and properties of hydrogen, oxygen, nitrogen, carbon chloride, bromine, iodine, fluorine, sulphur, silicon, boron, phosphorus, and arsenic.

The allotropic modifications of oxygen, carbon, sulphur, boron, and phosphorus.

The preparation, properties, and composition of water, hydrogen peroxide, the compounds of nitrogen with oxygen and with hydroxyl, ammonia and the ammoniac salts, carbon monoxide, carbon dioxide, carbonic acid, the carbonates, light carburetted hydrogen, acetylene, heavy carburetted hydrogen, hydrochloric acid, the oxides and oxyacids of chlorine, bromine, and iodine, hydrobromic, hydriodic, and hydrofluoric acids, the oxides and oxyacids of sulphur, hydrogen sulphide, hydrogen disulphide, carbon disulphide, silica, silicic acid, silicic hydride, boron trioxide, boric acid, phosphuretted hydrogen, the oxides and oxyacids of phosphorus, arseniuretted hydrogen, arsenious and arsenic acids, and the arsenic sulphides.

Manufacture of hydrochloric nitric and sulphuric acids. Composition and manufacture of bleaching powder. Theory of bleaching. Structure of flame. Suitability of water for domestic purposes. Causes of temporary and of permanent hardness of water. The atmosphere, its constitution; effects of animal and vegetable life upon its constitution. Names and formulæ of some of the more important silicious minerals.

The chief properties of the following named metals; their reduction from their ores; and the preparation, properties, and composition of their more important compounds:—The monad metals, especially potassium, sodium, and silver; the dyad metals, barium strontium, calcium, magnesium, zinc, cadmium, mercury, and copper; and gold, aluminium, lead, platinum, nickel, cobalt, iron, manganese, and chromium.

Manufacture of soda-ash, glass, porcelain and earthenware.

*Heat*.—General effect of heat upon the volumes of bodies. Experiments illustrative of the expansion of solids by heat. Coefficients of expansion, linear, superficial, and cubical. Illustrations of precautions which changes of volume by heat and cold render necessary in the arts. The gridiron pendulum. Construction and use of the mercurial thermometer. Centigrade and Fahrenheit scales and the conversion of the readings of either into those of the other. Dependence of the boiling point of water upon external pressure, and illustrations of this dependence. The temperature at which the maximum density of water occurs, and the effects of this in nature. Change of volume when water passes from the liquid to the solid state, and the effects of this in nature. Bursting of water-pipes in frosty weather. Other substances which expand on solidification. Experiments illustrating the expansion of gases. Principle and action of the fire-balloon. Principles of ventilation. The Sun's action in the generation of winds. Explanation of the Trade Winds. Constancy of the coefficient of expansion of gases. The small deviations from the general rule exhibited by carbonic and sulphurous acid gases, and the chemical and physical character of these gases. The

chemical and physical constitution of aqueous vapour and its diffusion through the atmosphere. Meaning of the term *saturated* as applied to air charged with vapour. The effect of expansion in chilling air, and the consequent condensation of the aqueous vapor diffused through the air. Application of this knowledge to the explanation of clouds and rain. Meaning of specific heat or capacity for heat. Description and use of the calorimeters of Lavoisier, Laplace, and Bunsen. The facts covered by the term *latent heat*. The latent heat of water and of aqueous vapour expressed in the centigrade and Fahrenheit scales. Conduction and convection, and the distinction between them. The low power of conduction of organic substances. Effect of mechanical texture on the transmission of heat, and the function of the clothes in preserving the body from cold. Character and phenomena of combustion. Chemical actions which occur in the combustion of coal and of ordinary gas. Explanation of the manner in which a candle flame receives its supply of combustible matter. The cause of animal heat. Structure of an ordinary gas flame, and the cause of the difference between this flame and that of a Bunsen's burner. General phenomena of radiant heat. Reflection and refraction. Different powers possessed by different substances to radiate heat. Explanation of how it is that under certain circumstances the cooling of a vessel may be hastened by surrounding it with flannel. Reciprocity of radiation and absorption. Meaning of the term *diathermancy*. Manifestation of this property by different bodies.

#### II.—FOR GRADES A AND B.

When first class Grade C has been obtained, the candidate who desires to proceed to I. B, or I. A, may take options. There are three optional Departments, viz:—

The Department of English Language and Literature, with History and Geography.

The Department of Mathematics.

The Department of Physical Science.\*

\* The Optional Department of Physical Science will not take effect till after July, 1880

DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE, WITH HISTORY AND GEOGRAPHY.

#### *The English Language.*

Composition.

History and Etymology of the English Language.

Rhetorical Forms.

Prosody.

BOOKS OF REFERENCE.—Earle's Philology of the English Tongue, Abbott and Seeley's English for English People, Bain's Composition and Rhetoric, Marsh's English Language and Literature, Lectures VI. to XI. inclusive.

#### *English Literature.*

1 History of English Literature from Chaucer to the end of the reign of James I

2 Specified works of standard authors to be prescribed from time to time by the Department.\*

BOOKS OF REFERENCE.—Craik's History of the English Literature and Language, Marsh's English Language and Literature, Lectures VI. to XI. inclusive.

#### *History.*

Greece.—The Persian to the Peloponnesian War inclusive—Cox's History of Greece.

Rome.—From the beginning of the second Punic War to the death of Augustus.—Mommsen's History of Rome.

England.—The Tudor and Stuart periods, as presented in Green's Short History of the English People, Macaulay's History of England, and Hallam's Constitutional History.

Canada.—Parkman's Old Regime in Canada.

#### *Geography.*

So much Ancient Geography as is necessary for the proper understanding of the portions of the Histories of Greece and Rome prescribed.

\* The following are prescribed for 1880:

CHAUCER.—The Prologue to the Canterbury Tales. The Nonne Prestes Tale.

SHAKESPEARE.—Romeo and Juliet.

MILTON.—Areopagitica.

POPE.—The Essay on Man.

JOHNSON.—The Lives of Milton and Pope.

MATTHEW ARNOLD.—The Preface to Johnson's Chief Lives of the Poets.

N. B.—Candidates who take other departments will be required to show by passing an examination in Romeo and Juliet that they have read the play carefully and that they are in the habit of writing the English language correctly.

No particular editions of these texts are prescribed, but the following good ones are mentioned in order to assist candidates:

Morris's edition of Chaucer's Prologue to the Canterbury Tales and the Nonne Prestes Tale in the Clarendon Press Series.

Hunter's Romeo and Juliet.

Arber's edition of the Areopagitica.

The edition of the Essay on Man in the Clarendon Press series.

Matthew Arnold's Johnson's Chief Lives of the Poets.

DEPARTMENT OF MATHEMATICS.\*

**Algebra.**—Multinomial Theorem, Exponential and Logarithmic Series, Interest and Annuities, Indeterminate Coefficients, Partial Fractions, Series (Convergency and Divergency, Reversion, Summation), Inequalities, Determinants, Reduction and Resolution of Equations of first four Degrees, and of Binomial Equations, Relations between Roots and Coefficients of Equations, Indeterminate Equations, Problems.

**Analytical Plane Geometry.**—The Point (including Transformation of Co-ordinates), the Right Line, the Circle, the Parabola, the Ellipse, the Hyperbola, the General Equation of the Second Degree, Abridged Notation.

**Trigonometry.**—Trigonometrical Ratios, General Values of Angles, Functions of Sum and Difference of Angles, Multiples and Sub-multiples of Angles, Trigonometrical Equations, Solution of Triangles, Measurement of Heights and Distances, Inscribed, Circumscribed and Escribed Circles of a Triangle, Quadrilaterals, Description of Vernor and Theodolite, Trigonometrical and Logarithmic Tables, Demoiivre's Theorem.

**Dynamics.**—Moments of Inertia, Uniform Circular Motion, Projectiles in Vacuo, Collisions, Simple Pendulum, Experimental Verifications.

**Elementary Geometrical Optics.**—Reflection and Refraction of Light at Plane and Spherical Surfaces (not including aberration); the Eye; Construction and Use of the more simple Instruments.

DEPARTMENT OF PHYSICAL SCIENCE.

Chemistry, Physics, Biology, Physiology.

In this group candidates will be allowed an option between Physics and Biology. A detailed synopsis of the work required under the above heads will be published.

Teachers' Associations.

The publishers of the JOURNAL will be obliged to Inspectors and Secretaries of Teachers' Associations if they will send for publication programmes of meetings to be held, and brief accounts of meetings held.

**GLENGARRY.**—The Teachers' Association of the County of Glengarry held its half-yearly meeting in the Separate School, Alexandria, on Thursday and Friday, September 25th and 26th. A goodly number of teachers attended, and evinced much interest in the proceedings, which were eminently fitted to carry out the design for which such associations are instituted. The opening address, which was of a very able and practical character, was delivered by P. McDiarmid, M.D., I.P.S., President of the Association. Mr. Parker, B.A., read a highly instructive and interesting essay on "The Study of Literature," replete with much valuable information and useful hints to aid teachers in reading literature for practical purposes. This essay was ably supplemented by an address from D. McDonald upon "The merits of Macaulay and Addison as prose writers." C. Kennedy spoke at some length upon the relative merits of the different text-books on Arithmetic. Dr. McDiarmid, a practitioner of recognized ability, delivered a carefully prepared address on the subject of Hygiene, which closed the programme for the afternoon. On the evening of Thursday a large and appreciative audience assembled in the Town Hall to hear Mr. A. L. Parker, B.A., deliver a lecture upon "The Origin and Growth of the English Language." This lecture was listened to throughout with intense interest, and displayed deep research and intimate knowledge with the subject on the part of the lecturer. On Friday, Mr. McKenzie read a paper on "How to teach Geography," which paper evinced both originality of conception and boldness of design. During the discussion upon this paper an eloquent address, which was highly appreciated by the teachers, was delivered by Mr. Cannon, M.A., on the intimate association that should exist between the subjects of History and Geography. Mr. Kennedy, the principal of the County Model School, a teacher of long experience and marked success, dealt with the subject of "The Physical and Moral Training of the Pupil" in a brilliant and effective manner. "On the afternoon of Friday, Mr. McLaurin delineated in his usual clear and forcible style his beautifully simple method of teaching "Elementary Arithmetic." Mr. McDonald, principal of the Separate School, and Mr. C. Kennedy, demonstrated the beauty of the "Unitary Method" by the solution of several difficult problems upon the blackboard.

**DURHAM.**—The next half-yearly meeting of this Association will be held in the School Buildings, Bowmanville, on Friday and Saturday, October 17th and 18th, 1879. PROGRAMME.—Friday, 10 to 11 a.m., Reports of Committees; 11 to 12 m., Writing, G. Class; 1.30 to 2.30 p.m., Natural Philosophy, J. C. Harstone B.A.; 2.30 to 3, Essay, Miss Gillian; 3 to 4, History for Schools, what it ought to be and how to teach it, J. Gilliland; 4 to 5, Mathematical Geography, J. Tremear, B.A. Saturday, 9 to 10 a.m., Question Drawer, Messrs. Barber and Reynolds; 10 to 11, How should the first Principles of Geometry be presented to pupils? 11 to 12 m., Algebra, W. E. Tilley, M.A.; 1.30 to 2 p.m., the teacher's work outside the School Room, J. R. Wightman, M.A.; 2 to 3, Composition, J. J. Tilley, P. S. I.; 3 to 4, Unfinished Business.  
Jas. GILLILAN, Secretary. W. E. TILLEY, M.A., President.

\* The following are recommended in addition to books prescribed for 1st C:  
ALGEBRA.—GROSS.  
ANALYTICAL GEOMETRY.—Puckle; Refer to Salmon's.  
TRIGONOMETRY.—Hamblin Smith's; Refer to Colenso's, or Todhunter's.  
DYNAMICS.—Kinematics and Kinetics.

**NORTH HASTINGS.**—The semi-annual meeting of the Association will be held in the Madoc Model School on October 9th and 10th. PROGRAMME.—Thursday, October 9th, 10 to 11 a.m., Report of Delegate to the Provincial Association and general business. 11 to 12, Hygiene, introduced by Dr. Dafoe. 2 to 3 p.m., Composition, introduced by Mr. E. D. Sutherland; 3 to 4, Essay on "Fact," Miss Kiddell; 4 to 5, Geography, introduced by J. Coyle Browne, P. S. I., 8 p.m., Public meeting in Town Hall, at which addresses on educational topics will be given by J. Coyle Brown, Esq., Inspector for Peterborough County; R. Dawson, B.A., Head Master, Belleville High School; J. Johnston, Esq., Inspector of S. W. Hastings; the resident clergyman and others. Friday, October 10th, 9 to 10 Grammar, introduced by Mr. George Kirk, 10 to 11, Book Keeping, introduced by Mr. J. Johnston, I. P. S.; 11 to 12, Principles of Statics, introduced by R. Dawson, B.A.; 2 to 3, English to advanced classes, by Mr. G. H. Thompson. 3 to 4, Question Drawer, in charge of Messrs. Brown, Dawson, Johnston, and Macintosh. N.B.—Questions for the "Drawer" should be given to the Secretary on the 9th. These questions may relate to anything connected with the teacher's work.  
GEORGE KIRK, Secretary. WM. MCINTOSH, President.

**HALDIMAND.**—The semi-annual meeting of this Association will be held in the Central School, Dunnville, on Friday and Saturday, Oct. 10th and 11th, 1879. PROGRAMME.—Friday, 1. Reading Minutes of Previous meeting, 2. Arithmetic T. Hammond, 3. Second-class Natural Philosophy, J. McNevin, 4. Classics as a Mental Training, Rev. Alex. Grant, B. A.; 5. Composition, Wm. Ayors; 6. Elements of Success in Teaching, R. P. Echlin, B.A.; 7. The Difficulties of the Teacher, Miss Emma Weir. Saturday, 1. Election of Officers; 2. Grammar, History and English Literature, J. M. Buchan, M.A.; 3. Model School Work, W. R. Telford, 4. Home Influence as a Factor in Education, Rev. J. Black, 5. Chemistry, C. W. Harrison, B.A. 6. School Apparatus, Alex. Small. On Friday Evening a Lecture will be delivered in Boswell Hall, by J. M. Buchan, M.A., High School Inspector. Subject—"Poetry and Politics." Lady teachers will be provided with accommodation in private families by communicating with Mr. Thomas Hammond, Dunnville, before the 8th October.  
R. P. ECHLIN, Secretary. —MOSES, President.

**HALTON.**—This association will hold its regular half-yearly meeting in the East Burlington Public School on Thursday, Friday, and Saturday, 2nd, 3rd and 4th of October, 1879. All teachers attending the association will be provided with temporary homes by addressing Mr. Hugh Cameron, P.S. Teacher, Burlington P.O. PROGRAMME.—Thursday, 2nd October, 1879; Forenoon Session—9.30 a.m., Opening; reading minutes; address by Dr. Lusk, Vice-President; "How to Teach Grammar," Miss Crooks, S.S. No. 7, Nelson. Afternoon Session—1.30 p.m., "Measurement of Surfaces," Mr. T. Moore, Acton; Analysis, Opening stanzas of Gray's Elegy, Mr. J. McN. Malcolm, S.S. No. 7, Trafalgar. Evening Session—7.30 p.m., Lecture in the Town Hall, by J. George Hodgins, Esq., LL.D., Deputy Minister of Education, subject, "A Plea for Elementary, Science and Industrial Training in our Schools." Friday, 3rd October, 1879; Forenoon Session—9 a.m., Opening; calling the roll; "Reading," Miss Watkins, Georgetown College; Arithmetic, "Dr. Lusk, English Master, Oakville; H.S. Afternoon Session—1.30 p.m., "Derivation," Mr. Little, Inspector P.S. Writing, Rev. N. Burns, B.A., Georgetown College; "Address," Rev. R. J. Laidlaw, St. Paul's Church, Hamilton. Evening Session—7.30. Lecture in the Town Hall, by James Hughes Esq., M.A., Inspector of P.S., Toronto, subject, "Kindergarten." Saturday, 4th October; Forenoon Session—9, Opening; calling the roll; "Industrial Drawing," James Hughes, Esq.; "Uniform Promotions," Mr. H. Cameron, Burlington; Afternoon Session—"Library," report of Committee; Routine.  
R. COATES, Secretary.

**SOUTH GREY.**—The association will meet in Durham on Thursday and Friday, 9th and 10th October, at 9 o'clock a.m. PROGRAMME.—1. The President, "Concurrent Examinations;" 2. Dr. Gunn, "Chemistry, with Experiments;" 3. Mr. Armstrong, "Model Schools;" 4. Mr. Galbraith, "How to Teach Grammar," illustrated with a Junior Class;" 5. Miss M. Micken, "Object Lessons," illustrated with a Class;" 6. Miss Corry, "How to Teach Reading," illustrated with a Class;" 7. Miss J. Gibson, "School and Class Drill;" 8. Mr. D. Allan, "Education;" 9. Mr. McArthur, "Grammatical Difficulties;" 10. Mr. Jones, "Hints to Parents about to enter a Normal School;" 11. Mr. D. Grier, "Missing Links in the Canadian school System;" 12. Mr. Reid, "Music in Schools;" 13. Mr. McDonald, "Incentives to Study;" 14. Mr. Ritchie, "Corporal Punishment."  
W. FERGUSON, I.P.S., President. JOHN C. BAIN, Sec.-Treasurer.

**PRINCE EDWARD.**—The next Annual Meeting of the Prince Edward Teachers' Association will be held in the County Council Chamber, Pictou, on Friday and Saturday, October 10th and 11th, commencing each day at 9.30 a.m. and 2 p.m. Subjects:—Friday—"Phonic System of Reading," Mr. James Hughes, Toronto; "Industrial Drawing," Mr. Hughes; "How to teach History," Mr. Hughes; "Arithmetic," Dr. McLellan; "How to secure attention," Mr. Hughes. Friday Evening, 7.30, Town Hall—Lecture by Mr. Hughes on "The Kindergarten;" Address by Dr. McLellan. Saturday—"Algebra," Dr. McLellan; "Reviews and Examinations," Mr. Hughes; "Statics," Dr. McLellan; Election of Officers; Question Drawer. Some Teachers will prepare on other subjects, and it is expected that all will enter heartily into the work of the Association. Questions for explanation must be sent into the County Inspector at least one week before the Convention.  
W. R. LAOWN, Secretary. G. D. PLATT, President.

**NORTH YORK.**—The next meeting of the above Association will be held in the First Division Room, Newmarket Public School, on Friday and Saturday, the 17th and 18th of October next, commencing at the usual time. The services of Dr. McLellan, H. S. Inspector, have been secured, and he will deliver a public Lecture on the evening of Friday, in addition to the general work of the Association; subject will be announced on a future occasion. The following is the Programme:—Analysis, part of "The Traveller," Jas. A. Brackin; Object Lesson (with class), Miss M. J. Thompson; Reading, V Book, page 228, Mr. McMahon; Arithmetic, I. and II. Examination Papers, 1879, Mr. Degeer; Essay, Order, Cleanliness, &c., in the School Room, Mr. W. F. Moore.  
D. FOTHERINGHAM, President. W. BANNIE, Secretary.

**NORTH WELLINGTON.**—Semi-annual Meeting in the Central School, Harrison, on Thursday and Friday, 2nd and 3rd October, 1879. PROGRAMME.—1. Address, J. Reid, B.A., H. M. Mount Forest High School. 2. Appointment of Committees on Finance, on Library, and Promotion Examinations. 3. Question Drawer Opened. 4. Geography Lesson, with IV. Class, C. F. Ming, H. M. Harrison P.S.; Critic—Messrs. R. Hislop, M. McKay, and H. Becker. 5. History for Entrance Examination, Peter McEachern, Parker P. S.; Critics—Messrs. R. E. Hamilton, S. B. Westervelt and J. Reid. 6. Roll Call. 7. Reading Lesson with III. Class and Callisthenics, G. A. Bingham, Harrison P. S.; Critics—Messrs. W. F. Mackenzie, R. W. Bright and J. McPherson. 8. Time Table, Registers and Reports, John M. Moran, I.P.S., North Wellington; Critics—Messrs. A. McPherson, R. S. Porry and A. Dickie. 9. "Spell It," D. F. Clapp, I. P. S., North Well-



ington; Critics—Messrs J. M. Moran, C. F. Ming and Mrs. R. Mitchell. 10. Elementary Arithmetic, with class, Miss Jane Wright, Harriston P. S. Critics—Miss M. Currie, Miss H. S. Livingstone and Mr. Edwin Longman. 11. Question Drawer Closed. 12. Mistakes in Teaching, James Hughes, I. P. S. Toronto; Critics—Messrs A. McPherson, H. S. Bulmer and T. Corbett. 13. Roll call. 14. Reports of Committees. 15. Model Schools, S. B. Westervelt, H. M. Mount Forest P.S. Critics—Messrs. D. Armstrong, J. A. Curtis and D. M. Angus. 16. How to Secure Attention, Jas. Hughes, Inspector. 17. Phonetic Method of Teaching Reading, Jas. Hughes, Inspector. 18. School Routine, Jas. Hughes, Inspector. 19. Grammatical Analysis, A. McPherson, H. S. Arthur P. S. Critics—Messrs. J. A. Dick, S. T. Perry and P. Garbutt. 20. Written Examinations, W. F. McKenzie, Riverstown P.S., Critics—Messrs. J. Hamilton, H. Mathews and J. Greig. 21. How to Conduct Promotion Examinations, J. M. Moran, Inspector, Critics—Committee on Promotions. 22. II. and III. Class Arithmetic Papers, Jas. Craig, B.A., Mount Forest; Critics—Messrs. A. Spence, W. McEachern and C. F. Ming. C. F. Ming, Sec., Harriston P.O.

### BOOK REVIEWS.

**KENNEDY'S VIRGIL, 2ND EDITION.** Longmans, Green & Co. Dr. Kennedy's edition of Virgil at once met with a formidable reception in England. We venture to say that the improvements of the second edition will greatly enhance the value of the work. The notes which, in the first edition, were arranged under three divisions, are now fused into one; the Commentary has been considerably enlarged; the Syntax and Indexes have been greatly enlarged, and an excellent metrical version of the Eclogues has been added. We heartily recommend this book to teachers and students as the best edition of the *Mantuan* Bard that has yet appeared in the English language.

**UN PHILOSOPHIE SOUS LES TORTS.** By Stievenard. Longmans, Green & Co. We have carefully examined this edition of a very popular little work by Souvestre (which, by the way, has to be read this year in the High Schools), and find it all that the young student of French could desire. The notes are copious, and evidently written by a teacher who has had practical experience of the difficulties usually encountered by English students of the French language. The student will welcome the frequent translations of difficult sentences, and idiomatic phrases. This edition is the best that the teacher can put into the hands of his pupils.

**ELEMENTARY ALGEBRA.** By Shelton P. Swinford, A. M., Professor of Mathematics in Mercer University, Ga.; Philadelphia, J. B. Lippincott & Co. Elementary algebras are so numerous, the ground they extend over has been so thoroughly explored, that he would be a genius indeed who would make any fresh discoveries, or even furnish us with any fresh treatment of the subject. The book, the title of which is given above, is, we think, up to the average of such works. The examples are exceedingly simple, but doubtless this is by design. The printing, binding and paper are excellent.

**ELEMENTS OF NATURAL PHILOSOPHY.** By Edwin J. Houston, A.M., Professor of Physical Geography and Historical Philosophy in the Central High School, Philadelphia, Philadelphia, Eldredge & Brother. A very readable book, well illustrated; as a school book it will doubtless be found as useful as most non-mathematical works on the subject.

**HOUSTON'S EASY LESSONS IN NATURAL PHILOSOPHY;** Philadelphia, Eldredge & Brother. A still more elementary work than the preceding, by the same author, and similar in its plan.

### MAGAZINES.

**THE ATLANTIC MONTHLY** for October is an excellent number, and contains a singularly various collection of articles. Besides the usual amount of prose, fiction, and poetry, there are articles on topics connected with art, literature, political economy, history, and travelling. He must be hard to please who cannot find something to his taste in this number. The writer has been very much interested by an article entitled *Sincere Demagogues*, which gives a valuable summary of the socialist opinions that are taking possession of the working men in the United States and strengthening the hands of such political leaders as Kearney of San Francisco. Teachers will read with pleasure a notice of a new edition of Webster's Dictionary.

**FRAZER'S MAGAZINE** for September fully maintains its well-earned reputation. "Mary Ankerly" is continued. "Mr. Froude's Caesar," by Professor W. Y. Sellar, from the nature of the subject and the great ability of the critic and the criticism, possesses a special value for teachers of history. Mr. Froude himself contributes an article on Chonoy and the House of Russell, which shows that his pen has not lost the cunning that has made him the most readable of the great living English historical writers. The other articles are—My Journal in the Holy Land, by Mrs. Brasse; Tenant Right in Ireland; In the Corsican Highlands, by the Hon. Rothen Noel; A Hungarian Episode, Zigeuner Music, by the Author of *Flemish Interiors*, *Holiday Travel-Books*; and *The Close of the Season*.

**THE CONTEMPORARY REVIEW.** Strahan & Co., London. Contents: The future of China; Annuals and Plants, by George Stewart; The Artistic Dualism of the Renaissance, by Vernon Lee; The Social Philosophy and Religion of Compe, by Professor Caird; The Problem of the Great Pyramid, by R. A. Proctor; Conspiracies in Russia under the reigning Czar, by Karl Hind; Political and Intellectual Life in Greece, by N. Kasas; The First Sin, as recorded in the Bible and in Ancient Oriental tradition, and some interesting critical reviews of contemporary books. It is a very valuable number.

**THE WESTERN** (September-October). G. J. Jones & Co., St. Louis. Contains Frederick Hohenstaufen the Second, by A. E. Kroeger; The Snow Mist; The Artist and his Purpose, by Cyrus Cobb; Life Linguistic Reveries; the Bachelor Poet and the Peasant Girl, by J. Munford Kerr; Philosophy of Art, W. M. Bryant; Book Reviews; Current Notes.

**BLACKWOOD'S MAGAZINE** for September (American Edition, Leonard Scott Publishing Co., 41 Burely St., N. Y.) contains Part VII. of the interesting serial story, "Riata," or What's in a Name; an interesting article on the Prize French Novel, by Hector Malot; a very readable article (Part I.) on Syria, under the Caption, "Among the Druses," The conclusion of Godfrey's White's Queen, Rufus Hickman of the Helolpys, and Review of the Session.

**HARPER'S MONTHLY.** Four interesting and amply illustrated articles on Travel, "On the Skirt of the Alps," "The Conuenara Hills," "Through Texas," and "A Ramble in Central Park," will bring the wide world with its wonders and beauties to many a fireside during the wet evenings of October; "Painted Glass in Household Decoration," and No. III. of "Fifty Years of American Art," are timely. Harper's is scarcely ever issued without some article specially intended to develop the best tastes of the people.

**POPULAR SCIENCE MONTHLY.** If teachers were only to read one magazine in addition to their professional journals, probably "The Popular Science Monthly" would do more than any other published in America to keep them abreast with the advanced thought of the world. Prominent among the articles for October are: I. "Protoplasm and Life," by Professor G. J. Altman, LL.D., F.R.S.; II. "John Stuart Mill," by Alexander Bain, LL.D.; III. "Micro-Organisms and their effects in Nature," by Professor W. S. Baynard Ph. D.; IV. "Science and Philosophy of Recreation," by George J. Romanes; V. "Mythologic Philosophy," I. By Major J. W. Powell; VI. "A Home-made Spectroscope," by James J. Furniss. (Illustrated.) VII. "The Source of Muscular Power," by H. P. Arnsby; VIII. "The Results of Abstraction in Science," by Charles T. Haviland; IX. "The Age of Ice," by H. B. Norton. (Illustrated.) X. "Sketch of Professor Frankland." (With Portrait.)

**ST. NICHOLAS.** Scribner & Co., New York. The Departments are laden with charming articles this month.

**DAY OF REST.** An excellent Sunday Magazine. It has two continued Serials—Be-be, the Nailmaker's Daughter, and the Wards of Plotemis; The Holy Communion; A Vintage Sketch; Count and Countess De La Garayo; What think ye of Christ; The Profit of Prayer; Work in Dark Places; and a Poem with Music, Saviour take me for Thine Own."

### Publishers' Department.

It gives us great pleasure to call the attention of our patrons to the advertisement of E. B. Benjamin, probably the largest dealer in America in chemical apparatus, rare chemicals, etc.

This gentleman has, as our subscribers are well aware, obtained the only medal in his line issued at the late World's Fair, at Philadelphia, and has published the largest and most complete catalogue of that kind of goods in the United States.

He has since not been resting on his laurels, but has proceeded to improve in every way the shapes and qualities of the goods in which he dealt.

The efforts of this gentleman to carry up the quality and character of his goods to the very highest standard has given him a most desirable reputation, and is bringing him deservedly the patronage of our very best judges of scientific apparatus.

Those desiring correct and reliable apparatus will do well to examine his large stock, and give him their orders.