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# The Canada School Journal.

Vol. V.

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## The Canada School Journal

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CANADA SCHOOL JOURNAL HAS RECEIVED

*An Honorable Mention at Paris Exhibition, 1878.  
Recommended by the Minister of Education for Ontario.  
Recommended by the Council of Public Instruction, Quebec.  
Recommended by Chief Superintendent of Education, New Brunswick.  
Recommended by Chief Superintendent of Education, Nova Scotia.  
Recommended by Chief Superintendent of Education, British Columbia.  
Recommended by Chief Superintendent of Education, Manitoba.*

The Publishers frequently receive letters from their friends complaining of the non-receipt of the JOURNAL. In explanation they would state, as subscriptions are necessarily payable in advance, the mailing clerks have instructions to discontinue the paper when a subscription expires. The clerks are, of course, unable to make any distinction in a list containing names from all parts of the United States and Canada.

### TEACHERS' LEGISLATIVE COMMITTEE.

Rev. John Rodgers, Vice-chairman of the London School Board, has recently inaugurated a movement in England, which is certain to produce important educational results. At his invitation a conference on questions of Public Elementary Education was held on the 2nd July, at the Vicarage of St. Thomas Charterhouse, London. The programme of subjects for consideration at the preliminary and at subsequent meetings included The Cost of Education; Compulsory Education up to the age of 14; the Inadvisability of Half-time; Compulsory Evening Education for Boys over the age of 16, for Technical Education, Languages, Science, &c.; the Code; Individual and Class Examination; the Fourth Schedule; Graded Schools; the Pupil Teacher System, ought it to be retained, and if so what Modifications are necessary? the Necessity for Centre Teaching; Training Colleges, their denominational character, a Conscience Clause, and is the number of Training Colleges adequate? Non-resident Training Colleges.

Head masters and members of School Boards were invited, and some members of Parliament were present. The object of the Conference was to discuss living educational questions with a view to securing practical legislation in regard to them. The meetings are to be held twice a year; before the Education Department prepares its annual code, and in the spring after the Educational Bill has been submitted to Parliament. Would it not be well for the Ontario Teachers' Association to appoint a Committee on Legislation? If such a committee were formed, representing fairly the various sections of the profession and the Province, no government could afford to treat its recommendations lightly. If the Grangers are to give their views on the teacher's duties, it is surely time for those who know most about the educational affairs of the country to make their opinions known. It is unfortunately true, that teachers have too often been treated somewhat cavalierly by our legislators,

but this is the result of want of organization, and a diffidence in expressing their views in a decided manner. If the Association becomes representative, the teachers of the Province could easily be united into one body through the local Associations, and they could then compel a respectful deference to their views.

### PHYSICAL EDUCATION.

We are glad to note that England and France are taking a more decided interest in physical training. In this they are merely following in the wake of Germany, Sweden and Denmark. The London School Board has recently re-engaged Miss Lofving, a Swedish lady, as superintendent of physical education in girls' schools.

At the beginning of this year a law was passed making gymnastics an obligatory subject of instruction in all French boys' schools. A minute of M. Jules Ferry has been recently published, laying down directions for the carrying out of the law. "Gymnastics," says the Minister of Public Instruction, "are an indispensable complement of scholastic instruction. In secondary schools, and primary normal schools, they already form part of the regular course; but in village schools, owing to the difficulty of finding instructors, they are only partially adopted. In futuro the schoolmasters themselves will be held responsible, and must qualify themselves for teaching gymnastics, either by the study of the Government manual, or by attending classes to be held during the holidays, in the capital of the Department. The Government will supply apparatus at 20 per cent. below cost price; but it is pointed out that free gymnastics, perhaps the best course for young children, do not require apparatus. Four lessons of half-an-hour are to be given each week; in the open air if the weather is fine—in a covered court or building, provided by the Mayor, if wet. The lessons are never to be given directly after a meal."

The *London Journal of Education* recommends the systematic introduction of gymnastics into the Public Schools of England as a subject for the consideration of Mr. Mundella.

### REMEDY FOR FORMALISM IN STATE EDUCATION.

*Apropos* to the meeting of the Provincial Teachers' Association, it may be well to consider one or two questions in regard to the working of a State system of education, which thoughtful men among ourselves, as well as in England, have frequently pondered and discussed.

All admit the necessity of some organization for the promotion of education. Four forms of this organization are possible, 1st. a purely voluntary, as in the case of the religious denominations; 2nd. an official or State system, as in the case

of Russia and other autocratic countries. 3rd. a union of the voluntary and State system, as in England and other European countries by a state and local system; 4th, a governmental and municipal system combined, as in Canada.

With the knowledge that all human systems are inherently imperfect, it becomes a question with educationists which of these four educational organizations would in its practical operation be most free from this inherent imperfection, and which, by a judicious system of "checks and guarantees," would reduce the evils of this imperfection to a minimum. The voluntary system we are compelled to dismiss as impracticable in a mixed community like ours. The second, or purely official system, is alien to our institutions. The third involves somewhat of a contradiction—since the State system must necessarily, by its fixed laws, embarrass, if not forbid, the freedom which is characteristic of a voluntary system. (This evil is now being felt in England.) The fourth is therefore the only one that is practicable among us. Of the operation of this system, in its relation to the State, we have now had large experience, and can, therefore, discuss without prejudice or feeling, some of the defects which it is alleged adhere to such a system.

The question of flexibility in education has been frequently raised in the United States—a country in which an official or State system combined with the local, has, perhaps, of all other countries the fullest scope and means for the freest development. The flexibility which is there permitted, the lightness of State control, which is nevertheless supplemented under official sanction by the constant discussion which every part of the school system undergoes at Teachers' County and State Conventions are, in so democratic a country, its greatest safeguards. With us the case is to some extent different. Like the English system, ours in Ontario is in its legal requirements somewhat rigid, and owing partly to the absence of official participation in convention meetings is wanting in flexibility and freedom. Under these circumstances, the opinions of recent English writers on this subject are valuable. What these opinions are, may be gathered from a spirited article on "State Education: A Help or Hindrance?" by Mr. A. Herbert, in the July number of the *Fortnightly Review*. Mr. Herbert says:

"At present we have one system of education applied to the whole of England. The local character of the school boards deceives us, and makes us believe that some variety of freedom of action exists. In reality they have only power to apply an established system. They must use the same class of teachers; . . . the children must be prepared for the same examinations and pass in the same standards. . . . Now if any one wishes to realize the full mischief which this uniformity works, let him think of what would be the result of a uniform method being established everywhere—in religion, art, science, or any trade or profession. Let him remember that canon of Mr. Herbert Spencer, so pregnant with meaning that progress is difference. Therefore, if you desire progress, you must not make it difficult for men to think and act differently; you must not dull their senses with routine or stamp their imagination with the official pattern of some

great department . . . . If, for example, a man holding new views about education can at once address himself to those in sympathy with him, can at once [as in the case of the new departure in education at Quincy, Mass.] collect funds and proceed to try his experiment, he sees his goal in front of him, and labours in the expectation of obtaining some practical result of his labour. But if some great official system blocks the way, if he has to overcome the stolid resistance of a department . . . . it becomes unlikely that his energy . . . . will be sufficient to inspire a successful resistance to such obstacles."

Mr. Herbert, writing from an English standpoint, puts an extreme case which is not likely to have its counterpart in Canada; but the principle of flexibility and freedom which he discusses, commends itself to every well-wisher of our school system. England has differed educationally both from the United States and Canada in one important particular. Until recently he has not brought to bear the potent and salutary influence of educational conventions and associations in aid of the successful administration of her school system. These conventions can, when wisely and judiciously conducted, be turned into potent instruments for good in suggesting improvements in the details and machinery of our school system. They can also prevent that antagonism and friction in its working and administration which must necessarily take place when the judicious counsels of experienced educators have no recognized voice in the state, or are unheeded by those who are practically responsible for the growth and prosperity of the educational system in their hands. We trust that the present Provincial Convention will prove a highly practical and successful gathering of earnest educators.

#### ONTARIO TEACHERS' ASSOCIATION.

The Twentieth Annual Convention of this important body will be held in the Normal School Hall, on Tuesday, 10th of August, and the two following days. The meeting promises to be one of unusual interest. There are several professional subjects on the programme which are of great practical importance, and the subject of Recent School Legislation is to occupy the attention of the general Association as well as the Public School Teachers' section. The question of the constitution of the Association will be decided, and will doubtless provoke a very animated discussion. We hope that an equitable basis for a representative association may be adopted.

—The question of "Conduct at School" and general instruction in manners is being sharply agitated in some parts of Scotland. The descriptions given of the behaviour of the boys in many districts would seem to warrant some decided action. It is useless to expect the schools to do all the moral training of the rising generation, or even the major part of it. The home should do most of the theoretical and practical teaching of good behaviour and good morals. Nevertheless, the schools have a vast influence over those who attend them, and the

teacher who does not place training of the heart above the training of the head, is certain not to attain the grandest results possible. A committee of the Greenock School Board has been investigating the matter, and have called for reports from their teachers concerning it. One of them states the causes of the rude conduct of boys to be: "(a) Hereditary instinct—*per-fervidum ingenium Scotorum*, blended in Greenock with the *mobile ingenium Celtarum*; (b) rough family life; (c) slackness of parental control (we may often observe children on the street at late hours); (d) the early age at which lads begin to earn and handle money; (e) the rough style of athletic sports now in vogue; (f) the frequency and somewhat rough nature of electoral gatherings in Greenock; (g) a certain kind of literature supplied to juveniles in penny numbers; (h) frequent gatherings of children under inefficient control; (i) want of sufficient police supervision; (j) rough employments." Some of these causes are worthy of the attention of teachers; and parents would do well to see that their children are kept free as far as possible from their baneful influence.

—Many teachers may be interested in learning the salaries of the teachers of the Elementary Schools in Ireland. The following are the rates now in force—they constitute "the fixed salaries," in addition to which the teachers receive payments on the results of the annual inspection:—"Male teachers—First class, first division, £70 a year, being an increase of £12 a year on old scale; the old second division of first, £60 a year, being an increase of £10 a year on old scale; the new second division of first, £53 a year, being an increase of £9 a year on old scale; the old first division of second class, £46 a year, being an increase of £8 a year on old scale; second class, new scale for first and second divisions, £44 a year, being an increase of £6 a year on old scale; third class, £35 a year, being an increase of £3 a year on old scale; assistants, £35 a year, being an increase of £3 a year on old scale. Female teachers—First class, first division, £58 a year, being an increase of £10 year on old scale; the old second division of first, £50 a year, being an increase of £8 a year on old scale; the new second division of first, £49 a year, being an increase of £7 a year on old scale; the old first division of second class, £37 a year, being an increase of £5 a year on old scale; second class, new scale for first and second divisions, £34 10s. a year, being an increase of £4 10s. a year on old scale; third class, £27 10s. a year, being an increase of £2 10s. a year on old scale."

—The reaction in regard to the "education pressure" agitation seems to have set in in England. Dr. Payne has recently delivered a lecture in reply to those who hold that pupils in the public schools are *over-wrought*. The following quotation fairly represents his opinions: "As regards the schools in this country for boys of the upper and middle classes, it can hardly be maintained that undue intellectual pressure generally prevails in them. Such a statement respecting the average Public School boy would be treated as a joke. Dr. Bridges, in the discussion

on this subject at the Social Science Association, gave his own recollections of school life at Rugby, and the work, as he describes it, is certainly anything but severe. English boys in general show a most valuable power of resistance against attempts to make them work too hard, and a happy elasticity of mind, which recoils after repression; so that, though it would of course not be impossible to stimulate them to excessive intellectual work, the task would be a difficult one." The conclusion which seems to be generally arrived at is, that while in some private schools for girls who have ambitious parents, and who are not allowed to take sufficient exercise, the brain work may be excessive. In the great majority of schools the injury to the health of pupils comes much more from bad ventilation than from over-work.

—Lord Norton succeeded in passing a motion in the House of Lords, by a large majority, which, had it become law, would have confined the subjects taught in the Public Elementary Schools to very narrow limits, and would have prevented the clever boy from making progress, in case his parents were poor. It is therefore cheering to know that there is a Minister of Education in England who has backbone enough to stand up against even a large majority of the august House of Lords. In reply to a question by Mr. Samuelson, Mr. Mundella said: "It is not the intention of the Government to strike the specific subjects out of the Code for the school year 1880-81. (Cheers.) But I wish it to be understood that we leave ourselves absolutely free to deal with the entire Code before the time comes to lay a new Code on the table of the House. (Hear.) I may say generally that there is no intention on the part of the Government to lower the standard of elementary education, or to diminish reasonable opportunities for obtaining it. Our aim is to extend to the whole population a thoroughly sound and efficient elementary training."

—The new code introduced by Earl Spencer and Mr. Mundella makes several changes which, although referring to matters of detail, are of vital importance. They refer mainly to compulsory education, and our readers may get an idea of the stringency of the law in regard to this question in England from the following summary of the provisions recently introduced. These are the leading points of the Bill, as briefly stated by the *Schoolmaster*:—

- Compulsory Bye-laws everywhere.
- Employers to be prosecuted for employing any child who ought to be at school.
- Bye-laws to be paramount.
- Out-door pauper children to be subject only to the same law of attendance as other children.
- Employment certificates made identical with bye-law exemptions, up to 13 years of age.

—The School Boards in England do some queer things. One of them expelled a girl from school because her parents would not allow her to take part in sweeping the school-room.

The Department compelled the trustees to admit her, however. Another Board refused by a majority of six to one to meet the Inspector for a brief consultation on school matters when he was visiting their school: "They knew their own business." Dr. Richardson's work on Temperance was authorized as a reader in one place, on condition that it be "read without comment."

—The nomination of Gen. Garfield, from Ohio, gives that State the reputation of providing the presidents for the Union. Teachers in that State do not now regard it to be prudent to whip an Ohio boy, lest they be guilty of the sacrilege of punishing a future president of the United States, knowing that in their old age he might therefore refuse them the small boon of a post-office.

—A novel method of compelling a girl to stop talking was recently adopted in Southwark. A teacher, after trying various methods without any good result, at last got a piece of "sticking plaster" and forced it on the girl's mouth. It was an effective remedy, but the teacher was fined 9s. and costs for her action. The fine was made light because the teacher had previously been kind in her manner towards her pupils.

—The English law is so strict with reference to sending a pupil on the public examination day that the father of a pupil in Canterbury Road Board School was fined for not sending him on the closing day, June 16th.

## Contributions and Correspondence.

### EDUCATIONAL PROGRESS.

BY DAVID ALLISON, LL.D., SUP'T. EDUCATION, NOVA SCOTIA.

The diffusion of education is perhaps the most striking phenomenon of our age, distinguishing it more sharply and vividly than anything else from past epochs. It is not necessary to recur to the genesis of the movement, which has issued in so magnificent a result, nor to analyze the forces which have co-operated in its production. The battle has been fought and won. Men of intelligence and station can now be found with difficulty who will affirm that a state of ignorance is the normal and desirable condition of the masses. It is no longer denied by any reputable authority that all property is fairly liable, at least within certain limits, for the education of all. Those who still retain a degree of sympathy with the spirit of obsolete, or obsolescent, systems, and would like to do some sort of battle in their behalf, find themselves compelled to work with masked batteries from behind the convenient cover of the "three R's." These are the people who say (in deed, if not in word) if we must have a generally diffused education, let it be of a low order, of the most elementary type.

If the question be asked in what direction it is desirable that the current of educational reform or progress should now set, I must unhesitatingly answer, in the direction of an internal improvement of the schools. "Education for all" should now, as a watchword, be succeeded by "Education good enough for all." So long as it

can be said with any degree of truth that special schools, with no higher grade or pretensions than any given class of our free public schools, turn out, to use a rough phrase, better work than the latter, so long there is a reproach upon us, of which we should labor to clear ourselves. For myself, I believe that a claim of this kind is often put forth most unwarrantably. It is sometimes urged when there has been no comparison of really analogous work, and could be none. It is too frequently admitted on the *omne ignotum pro magnifico* principle. It is not often, I think, justified by fact. However this may be, our schools in their respective spheres and classes, should be prepared to do, each its own work, so that none can do the same work better, nor so well. They can reasonably be asked to vindicate their utility by reference not simply to their general function as educational instruments, but to the special quality of the education which they impart. Their products should be good as well as abundant.

It may be asked if this is not the consideration which now determines the educational policy of all countries sustaining a national system of education. Are not new securities for the efficient management of our schools almost daily taken? Do not legislative enactments and departmental instructions alike look towards, as it were, *binding* the teacher to the faithful performance of his duties? Nay, to go further back, is not the constant drift of effort towards the provision of more competent teachers? I answer these questions of course in the affirmative, as I note these indications with pleasure. The jealous care with which free communities guard their public institutions by legitimate precautions and oversight shows that these institutions are properly valued. "The good and faithful" teacher has nothing to fear from the most rigid inspection of his work. All that pressure extracts from "the slothful servant" of the public is "clear gain." But this is not my point. There is no service like willing service, and I wish to show that the position of teacher in the public schools is pre-eminently a position in which a man of elevated sentiments and proper moral habitudes is brought under the play of inspiring motives. He who feels that in the communion of his profession he is moulding the national character and determining the national destiny, does not, it seems to me, lack inspiration to high and honourable effort as compared with the favored teacher of a "select" school. In our adjustments and readjustments of educational machinery, made necessary from time to time by the principles of progress itself, let us aim to strengthen rather than weaken everything which tends to exalt his calling in the teacher's own estimation, to repress the sense of mere mechanical operation, and to present the teacher to himself as one who, whatever be the links which foster him to a general system, has a sphere to fill, and a work to do which afford ample scope for the peculiar forces resident in his own personality. On the realization of this ideal depends in part, in my opinion, the true progress of education.

### FROM PESTALOZZI TO FROEBEL.

BY W. N. HALLMANN.

(Address delivered before the National Educational Association at Chautauqua, on the 15th of July, 1880.)

The connection between Pestalozzi and Froebel is so intimate, they are in several respects—although following wholly different methods—so nearly allied in principles and aims, that many still look upon Froebel as a mere modifier of Pestalozzi, and accuse one of his greatest creations—the kindergarten—of being only "a kind of object-teaching." This is not astonishing in superficially in-

formed laymen, or in those of our profession who know one or the other or both only from hearsay; but it challenges our serious reflection to hear similar remarks from men and women who stand deservedly high in the educational world, to notice that men, to whom all look with admiration, see in the kindergarten only "sub-primary schools," that they use it in a schoolish way, and measure its efficiency only by its direct effects on the school-attainments of children.

This misapprehension of Froebel's work finds an easy explanation in the fact that, as a whole, the educational world is still struggling towards Pestalozzi. Seeing Froebel through the veil of Pestalozzi's great achievements, they have no conception of the wide stretch beyond, that separates Froebel from his teacher. Thus, stationed on the earth's surface, we see the moon, the planets, the stars, the milky way—all, apparently, in the same plane, and have no conception of the immense distances—the years of light—that lie between them.

Happily, this need not discourage the disciples of Froebel; for, in spirit, Pestalozzi and Froebel are one. Both were equally animated by a great love of mankind, and by a steadfast faith in the highest ideals of humanity; both held, that in the recognition of truth and beauty, in the practice of justice and love, the march of mankind is of necessity ever onward. Hence, Pestalozzi's light must needs lead to Froebel. This is conclusively shown in the fact that a great majority of Froebel's warmest advocates have reached him through an equally warm advocacy of Pestalozzi. Nay, it is shown in the very fact that those who are still struggling to reach Pestalozzi, see in Froebel only his pupil, his disciple.

It cannot be my purpose, then, to depreciate those who eagerly follow in the wake of Pestalozzi's progress towards Froebel, much less to depreciate the great master himself. On the contrary, by concentrating Froebel's higher and purer light on Pestalozzi's achievements, I would aim to render these clearer, more attractive, more convincing, so that those eager followers of the "father of popular education" may the sooner become equally eager conscious followers of the "discoverer of childhood."

Considering the work of Pestalozzi objectively, *i. e.* without reference to the subjective springs of his wonderful activity, we find that its educational value centres in the recognition of all-sided development in the growth of the individual, and, perhaps, of the race. The recognition of this principle led him to insist upon the necessity of activity on the part of the child, as the essential condition of development, since only by their exercise can the faculties be developed; it led him to oppose cramming, since the educator can create nothing in the child, he can only superintend the development of the inborn faculties; it led him to the importance of training as opposed to mere instruction and precept; it led him to the importance of *early* training, inasmuch as during the first stages of development the faculties are most in need of protection and guidance; it led him to acknowledge and extol the mighty influence of the mother in the work of education, and her peculiar fitness for this work; it led him to respect in every child the advanced humanity of which it gives rich promise, and which alone he thought worthy of the educator's efforts; it led him to base all instruction and all training upon the child's own sense-impressions, proceeding from the known to the unknown, from the near to the remote, from the whole to the parts, from particulars to generals, from perception to reflection, etc., as indicated in his so-called laws of object-teaching with which all are familiar; it led him to the alphabet of perception, since in form, number, and language—unphilosophical as this may appear to us now—he saw the ultimate germs of all knowledge, which must first be well rooted and made strong in their simplicity, before they can support a complicated system of branches, and bear foliage and fruit.

It is true that his practice was in very many respects behind his theory, nay, in some respects even opposed to it. Thus, the activity which he induced in his children, of repeating, parrot-like, whatever happened to strike him as suitable and desirable; the long lists of words—meaningless to the children—which he had them to memorize, were far from favoring a healthy development of the intellectual faculties. Similarly, the object-lessons in their English and American form—although not strictly Pestalozzian—the very refinement of cramming, has been lauded by well-meaning advocates as antidotes to cramming. Again, although urging the need of training, he instructed so much, and so incessantly, when with the children, that he gave them no opportunity to exercise their own productive faculties; for, surely the mere repetition of the master's words is not an exercise of productive faculties. Thus, it would be easy to show that, in his practice, he habitually infringed upon his own laws of object-teaching, and was continually confounding his alphabet of perception; so that it has been well said that Pestalozzi's greatness lies more in his aims than in his personal method.

The shortcomings of Pestalozzi, in his personal method, are due, on the one hand, to the power of heredity, which, acting as a sort of mental inertia, compels us to move (though, possibly, with decreasing velocities) in the directions in which our ancestors moved, in spite of better insight; on the other hand, to the force of surroundings, whose current will draw our conduct away from our aims with a directing power: in other words, it is due—as I have shown elsewhere—to the law of personal equation, applied on an extended scale to our lives, and the life of the race as a whole. When we view Pestalozzi's struggle in this light, our admiration for his steadfast adhesion to his aims, in spite of the weighty obstacles of his nature and his time, and the shortcomings of his personal method, is vastly increased. We then see in him a man who loves truth more than himself, whose faith in her ultimate success is never shaken by his own failures in her service. There is scarcely a moment in our lives when we may not be sustained, encouraged, elevated by so beautiful an example. Perchance, too, we will learn, from this circumstance, the lesson that it is safer to follow good men's aims than to follow their personal practice, a lesson that might be read with profit by many of the so-called followers of Froebel, who, in aiming to follow the man, lose sight of his high aims, and sooner or later become entangled in sterile formalities, or fall easy victims to any system or tendency that will pretend to patronize Froebel. Men and their practices suffer with the faults and evils of their time; besides, they are fleeting, and do service for a period only; but their aims, inasmuch as they lie in the direction of truth, partake of the immortality, the irrepressibility and infinity of truth,—they are for all times.

Is not this proved by this wonderful Pestalozzi? No one, according to his own confessions and self-accusations, could be fitted for carrying out his lofty aims. In all his practical undertakings he failed, failed ignominiously; and yet, by his aims alone, which he never doubted, and never forsook in all his adversity, he marks the greatest epoch in the history of education, and stands out a shining monument of the power of truth and love. If these can accomplish so much with so weak an agent, what would they not accomplish if they should take equally full possession of one of our giants in practical skill!

It is a remarkable fact that Froebel, who supplemented Pestalozzi's work and placed it on a broad and sure foundation, was also deficient in skill in the practical affairs of life; although—thanks to his clearer mind and wider culture—he excelled as a teacher, and carried out his own principles in his work with the children. He, too, had a hard struggle with life, and met with frequent re-



verses, that must have crushed him, had he not been upheld by a faith and singleness of purpose as great, as steadfast, as Pestalozzi's. Ridicule, persecution from Church, State, and School, pecuniary losses, the estrangement of friends, had no sting for him; his unflinching faith in ultimate success sustained him in all trials and tribulations.

Froebel, in speaking of the difference between himself and Pestalozzi, says: "All my means of culture I formed from an idea; therefore, I begin with a type of unity (the ball)." And further on: "I am in pure contest with Pestalozzi; he started from the misery and want of poverty, from external conditions; I, on the other hand, from the internal, from my own peculiar view of life, hence from an idea." These propositions contain the key note of his advance beyond Pestalozzi; although, in the second proposition, this is clouded by a strange misconception on his part. It is true that the external motive of Pestalozzi lay in the misery and wants of the poor peasantry of Switzerland; but it is equally true that he was led to his work by an internal motive, by an exalted idea of the worth of humanity, and of its unity with all being. All ideas indicate but the more or less general drift of experiences, and of aims which, themselves, spring primarily from experiences, whether they be received directly, or indirectly through instruction or through the channels of heredity. Thus, Froebel, like all men of his calibre, was in truth led in his work by an idea based on "his peculiar view of life;" but he, too, like Pestalozzi, was primarily moved by an external impetus which he indicates clearly enough when he points to the miseries and wants of the educational practices of his time.

On the other hand, it must be admitted that Froebel attended more to his internal motive, his idea, than was the case with Pestalozzi, who was predominantly conscious of his external purpose, the relief of misery; and to this extent, Froebel offers, indeed, a contrast to Pestalozzi. His view of life, however, scarcely deserves to be called peculiar, since, as will be seen directly, it is the view which philosophers and teachers of mankind have at all times urged more or less clearly and completely. But his intentness upon his idea was peculiar, and to this may be ascribed also the peculiar clearness and completeness with which he apprehended his view of life and gave expression to it in his educational work.

Froebel sums up his view of life and of the object of education in the following words: "In all things there lives and reigns an eternal law. This law is enounced with equal clearness and distinctness in nature—the external,—in the spirit—the internal,—and in life—which unites the two.—This all-controlling law is necessarily based on a living, all-pervading, energetic, self-conscious, and—hence—eternal unity. This unity is God.—The divinity that is in each thing, constitutes its essence. It is the destiny and life-work of man, as an intelligent, thinking being, growing into consciousness, to a pure and unsullied, free and spontaneous representation of the inner law, of the divine in him.—The recognition of that eternal law; the insight into its origin, its essence, into the living connection among its effects; the knowledge of life in its totality,—is science: and, referred by conscious, thinking, intelligent man to its representation and accomplishment in himself, it is the science of education.—Education must lead and guide man to a clear insight into his own nature, to peace with nature as a whole, and to unity with God: hence, it must elevate him to a knowledge of himself and of mankind, to a knowledge of God and of Nature, and to the pure and holy life to which such knowledge leads." And elsewhere: "Education must lead the child, must lead the man to unification with life in all directions; it must lead him to full unification with his kind, with his neighbor, with society; it must lead him to the greatest possible unification with

nature and her laws; it must lead him to an indissoluble unification with the principle of all being, the alpha and omega of all life—with God."

On this broad and secure platform, made for all time, and for "all men, good and true," whatever may be their subjective ideas of God, Froebel placed himself; those ideas he held fast in all his work. It will be noticed, on closer scrutiny, that they contain nothing new, nothing that had not been deemed "pure and holy" long before his time; and yet, uttered by him, they seem like a new revelation. What is it that gives his utterance of them this peculiar charm? It is the fact that he first translated them fully, clearly, consistently into life, and into the work of education. Thereby he made them the common property of mankind, and invested them with a new and strong interest to many who had heretofore looked upon them as having merely theoretical value, and as the privilege of the favored few. Similarly, James Watt, and Morse, who did the same with the world's knowledge of electro-magnetism, appear as greater benefactors of mankind than those on whose shoulders they stand, and who, while recognizing the principles involved, failed to make them readily available for purposes of practical life; and many who gave no heed to the powers of steam and electro-magnetism while they were in the hands of the theorists and bungling inventors, now greeted them with grateful admiration as the discoveries of Watt and Morse.

Let us look at the consequences of this view of life in the master-mind of Froebel. Deriving all things from an all-embracing unity, which he calls God, he holds that "it is the special destiny and life-work of all things to unfold (or evolve) their inner essence, to reveal the divinity that is in them." This implies evolution, the development of Pestalozzi intensified, made more living, as it were, by a clear and distinct conception that it is not merely growth of strength through exercise, but development, from within outward, of an inborn tendency, pervading the whole being, toward an infinite ideal that leads ever upward.

In man, as an intelligent being, this special destiny and life-work is exalted by the demand that he "is to become clearly conscious of his essence, his destiny and life-work, and to accomplish it in perfect spontaneity and freedom;" and it is made the business of education to secure this. While, therefore, with Pestalozzi, he looks upon activity on the part of the child as the essential condition of its evolution, Froebel labors steadily and effectually to make this evolution free and spontaneous, to arouse that *voluntary* activity which alone deserves the name *self-activity*. Pestalozzi induces the child to do what he wants it to do, in the way that he deems best, and with an aim which he alone can comprehend; Froebel, on the other hand, teaches the child to do effectually what it wants to do, in a way that seems agreeable to the child, and with aims fully its own,—taking care, in a chiefly guarding and guiding activity, directed mainly to his example and the suggestive influences of surroundings, that these aims and purposes lie in the direction of his divine ideal.

This protects him effectually against cramming, against which Pestalozzianism has proved inefficient even in the work of its founder. It is true, it must be admitted that there are also many so-called kindergartens, labelled Froebelian, in which cramming of the worst sort is practised; but this can be ascribed neither to Froebel's doctrine nor to his example. The persons in charge of these kindergartens either have had no opportunity to learn more than the merest outside of his work, or have failed in their apprehension of his teachings: they are, if they are earnest in their work—still struggling towards Pestalozzi, or entangled in the contradictions between aim and execution which his name implies.

Again, with Pestalozzi, Froebel was led, by his view of life, to the importance of training as opposed to mere instruction and precept. For Pestalozzi, however, this training was important only in so far as it strengthened certain faculties involved; while with Froebel it was practice in the art of giving expression to the inner self, in the art of accomplishing "destiny and life-work," in "complete living." Pestalozzi would train his pupils to see what he sees, to hear and feel what he hears and feels, to understand things as he understands them, to express them as he expresses them, always judging their perfection by its resemblance to his own. Froebel trains his children to give expression, in word and deed, to their own notions and ideas of things, so that, on comparing their representations of their ideas of things with the things themselves, they may themselves discover and correct misapprehensions and deficiencies, and learn the wholesome art of self-criticism; he trains them to use their powers in such a way that with the scantiest stock of material they may accomplish their purposes, that they may learn to be always the architects of their own happiness and dispensers of blessings to all around; and he tests their perfection by the agreement between their expressions and their own ideas, by the amount of joy which their activity brings and gives, so that he has for each child a special criterion, and now criteria for each advanced stage of evolution.

Like Pestalozzi, Froebel insists upon the importance of early training; but in this, too, Froebel rises from the crude views and hasty directions to the higher level of clear insight, distinct purpose, and calm, full control of means. Pestalozzi, indeed, speaks with his peculiarly intense enthusiasm of the mothers of Appenzell, who, during the first week of the child's life, suspend a large and brilliantly colored paper bird over the cradle before the eyes of the child, and of the eagerness with which the child struggles with hands and feet to reach the motley gewgaw: but, in his directions to the mother, he fails to obey the insight gained, and—confining himself with his usual one-sidedness in practice to the training in perception and language—shows the mother how to repress the child's eagerness to get hold of the outer world, by means of dry talks on the number and position of the bones of its own body.

How differently Froebel—who—improving on the suggestion of the mother of Appenzell—replaces her complicated, frail bird by pure types of unity, the soft colored balls of the first gift, which cannot be injured by the child's eager handling, nor repel its advances by the shocks of sharp points. These balls, hanging over the little couch before the child's eyes, call to the child awakening into consciousness:—Come out, we are here! Come out to us! See, we move, we live; come, play with us! Come, love us, and let us love you!—These constant calls of the balls are interpreted by the mother in pleasing, simple, endearing word and song, and thus invested with new and ever-growing charms; and, then, child and mother and ball roam about in the immediate neighborhood and explore the world within the child's reach, the child's world. All the child's growing ideas of outer individualities cluster about the balls, and, when resting from their explorings, child and ball and mother rehearse their experiences, the ball ever ready and competent to represent, at the bidding of the child, the images of the ideas gained, making the child's growth an all-sided, doing, living growth, instead of an all but passive "see and babble."

In due time, the child's powers have grown stronger, the scope of its perception has become more extended, its purposes are more complicated and remote, its skill in saying and doing is increased above the level of the first gift. Then, the hard ball, cylinder, and cube of the second gift, differing widely and decidedly from one another in external character, step in, saying to the child: We

e different, compare us; we can each do many and different things, try us; we can go further on all sides than the soft balls, come roam with us!—and, later, the third and fourth gifts rush in, shouting: Look into us; measure, count, change us; do with us what you will: we shall always give you joy, show you new sights, help you in all your merry play, and give you a world of happiness. In all this, and in all else, the mother follows and takes part, cheering, interpreting, helping the child in its efforts to understand and control its expanding world;—not forcibly lifting it up into her world, where it feels so strange, and lost, and powerless.

It seems to me that in no direction does Pestalozzi deserve more the gratitude of mankind than in his spirited vindication of the mother's influence in the work of education, and of her natural fitness for the task. Yet, aside from his general fault of running in his practice directly against his theory, or falling far short of his aims, his views on this point seem to suffer unusually from that crudeness, vagueness, uncertainty, and lack of foundation, against which Froebel was secured by his strict adherence to his view of life. Nay, it is doubtful that Pestalozzi respected women as a factor in humanity, equal in importance to man, since in his own teaching he never addressed the girls, but only the boys. In short, the contradictions in his nature appear here, perhaps, most glaringly. On the one hand, he extols "the parental heart" as "the only sure foundation on which to build institutions for popular education," and "the holiness of home" as "the only condition of equal development of all the human faculties;" on the other hand, he almost wholly ignores the father's existence as an important specific factor of home-life. On the one hand, he exalts the mother above the schoolmaster, and makes her the schoolmaster's teacher; on the other, he would degrade her into a petty school-pedant, and her hand into a little factory of schoolish automatons. On the one hand, there are prophetic glimpses of the widest truth in all her fulness and brilliancy; on the other, a blind surrender to expediency with the narrowest of aims.

None of these contradictions, none of these wanderings perplex us in Froebel. To him, the family in its completeness—father, mother and child—appear as "the holiest of holies of humanity," as the conscious triune molecule of human society; and in it, father and mother are equally supreme, each in the allotted way; both equally essential and responsible in the evolution of the child's life. If he speaks with greater warmth and concern of the mother, he does so, partly, because—as the representative of love—she stands, in the earliest years of the child, nearer to it, and appears, within the family, as a mediator between the father and the child,—and, partly, because he recognized that woman's culture had been neglected, and that it was necessary to insist strenuously upon the cultivation of her heart and mind, so that she might consciously and deliberately act her part in the life of the family, as the full equal of her male complement. Indeed, in his eyes the kindergarten derived much of its importance from its character as a school for mothers, and of conscious motherliness in women. And, how fully he has succeeded, in the organization and work of the kindergarten, in opening woman's mind and heart to the importance of her office as a mother of humanity, in supplying her with efficient means for filling this office consciously and successfully, and in full accordance with his view of life,—all can testify who have had a glimpse at the inside of kindergarten work.

In the light of the foregoing remarks, it is evident that, in his respect for the humanity in the children, Pestalozzi could not proceed much beyond the intense wish of protecting and nursing it. The attainment of this aim was so far beyond the circumstances under which he labored, his labors themselves were so fragmentary, his control of men and means so deficient,—that it must remain



for him a fond wish, an ultimate end. This, indeed, proves the intensity and purity of his own humanity, and—uttered in his own warm words—paved the way for success on the part of his pupils and followers. In the hands of the great path-finder Froebel, however, the humanity of the child is in truth the only and constant aim and outcome of the educational activity; in the least trifles, his view of life—which embodies the essence of highest humanity—is ever held in clear view; the child's progress in "unity with self, with others, with nature, and with God," is secured at every step. Thus Froebel proves that Pestalozzi's hope and faith were not a dream, but the prophetic conviction of a man whose every thought and deed were dictated by infinite love.

Pestalozzi's derivation of all training and instruction from sense-impressions, his so-called "laws of object-teaching," and his "alphabet of perfection," have been so frequently, so extensively and thoroughly criticized, that it would be loss of time and labor to undertake their criticism here. They are, indeed, well enough as far as they go; but this is their main fault, they do not go far enough in any direction. The truth that is in them is embodied in Froebel's simple law of the connection of contrasts, with which all are familiar, and which, as the law of intellectual life, supplies also the deficiencies of Pestalozzi's complicated code.

Thus we have seen that, in every point of Pestalozzi's great advance, Froebel has gone far beyond him, has—inasmuch as Pestalozzi's aim lay in the same direction—thereby proved the genius of Pestalozzi. It still remains for me to point out at least two features which, though hinted by Pestalozzi, are hinted so very vaguely and obscurely that they may be claimed as exclusive features of Froebel's work. I refer to his training of manual skill, and to the use of the kindergarten in training the social nature of children.

Manual skill, in Froebel's educational scheme, plays a part similar to language: it is trained and used as a medium for the expression of ideas. These expressions of ideas are fashioned by the hands from some more or less plastic material, and have the great advantage of resembling the things expressed more or less closely, more or less directly, more or less corporeally. The child, therefore, has an opportunity here to compare these more or less material representations of the ideas of things with the things themselves, to test their accuracy directly, to correct misapprehensions and supply deficiencies on the spot,—in short, to get new, clearer, fuller insight in applying its previous insight in self-active, joyful efforts to its purposes of pleasure.

These exercises, in giving outward form to the images and imaginings of its own mind, are carried on in such a way as to give the child almost reverence for the material with which it plays with the purposes indicated. The great pleasure it derives from the playthings render them naturally dear to the child, and this grateful love is kept fresh by handling the playthings in such a way that they will never cease to give fresh, higher pleasure. What the child saw yesterday in these playthings is there again to-day, with much new insight; and this fact, repeated daily, plants in the child's mind the faith that they are inexhaustible, leading it to an appreciation of the infinity of truth, of which they are utterances. Thus it happens that in later years, when the child has acquired much skill in the more complicated use of advanced gifts and occupations, it will return to the ball again and again with renewed zest, sure of seeing in it or with its help something new, or in a new, clearer light—of acquiring some new power or intensifying some old one. This secures it against surfeit and ennui, these greatest enemies of peace and purity: for it, the simplest surroundings—the plainest world, as it were,—teem with pleasures "ever fresh and ever new," with opportunities to see and do.

Even what, in less thoughtful play with the occupations, e. g. with cutting and folding papers, would be thrown aside as waste, Froebel utilizes in a variety of ways with the child, chiefly in training the æsthetic sense by arranging the waste clippings in numberless forms of symmetry, or otherwise applying them to purposes of ornament. Thus the child learns to love and respect what in superficial comparisons we are pleased to call the meanest things, as being connected in their essence and in their possibilities with the essence of all things.

If to this we add that Froebel's series of playthings, viewed as a whole, represent, on the one hand, a comprehensive and all-sided analysis of the material universe into abstract elements, and, on the other hand, a clear, distinct synthesis of these abstractions into a new ideal universe in the child's mind; and that the feature pervades the entire scheme at every stage and step, giving the child in and through its play, at all times, the full mystery of its expanding world, inwardly and outwardly:—we are forced to admit that Froebel has, indeed, found a way of leading, as he expresses it, "to widest and highest life, in and through life."

Right on the surface of this phase of Froebel's scheme, it will be seen that it leads to the industrial and to art. This, surely, is one of its greatest merits, inasmuch as progress owes, perhaps, its greatest triumphs to the industries and to art; yet we should be in danger of injustice to Froebel, and of perverting his work or lessening its scope and influence, were we to overlook its broader and deeper tendencies in the development of child-nature, by laying too great or exclusive stress on its industrial and art bearings. Froebel leads to the love of work by training and enabling the child to find its greatest pleasure in creative doing; he leads it to skill in imitative and inventive labor by teaching it to utilize every new idea or insight at once and successfully in efforts to make life more enjoyable, rendering the surroundings clearer, and more beautiful, and more yielding with the help of the new light; he leads to art by enabling the child to enjoy, from its germs onward, the delight that attends the habit of giving outward plastic expression to the ideas and ideals which a rich life generates in a fertile mind.

One of the most prominent distinctive features of Froebel's educational scheme, and more especially of the kindergarten, is the attention it gives to the training of the social instincts. Indeed, this constitutes—as I have attempted to show in my address to your body at the Boston meeting—the specific use of the kindergarten. The training which the child receives in the kindergarten for *intercourse with equals* is something which the family cannot give and which the school has heretofore offered only incidentally, if at all. In this light, Froebel's kindergarten appears as a sort of ideal society in which a generous self-assertion goes hand in hand with a rational self-sacrifice, in order to secure the greatest possible individual and common happiness; a society which takes delight in aiding individual development, because it knows or feels that the most highly developed individuality confers the greatest benefit upon all concerned, is most useful in the common enterprises; a society in which each individual is ever ready to give itself wholly to these common enterprises, because it knows or feels that its self-sacrifice will be amply repaid by its share in the common success. The social games and the group-work are the chief means of this social training; yet, in addition, every exercise is greatly modified to adapt it to the requirements of social training.

A full sketch of Froebel's work would, indeed, require more attention to the details of features which here could only be hinted; but my aim was chiefly to show that Froebel went far beyond his great predecessor in all directions in which the latter himself labored. I hope that, in addition to this, my remarks may have proved to you that we have still much to do to attain his ideals, and to

apply to all educational phases the principles which he had time to apply fully only to early training; that the work, as far as he has applied it to practice in his directions to mothers and kindergarteners, cannot be measured by the standard of the school, which stands on a narrower foundation and has narrower aims, but only by the child's life, and the child's whole life; and that in due time, there must come a progress beyond him.

### "TECHNICAL EDUCATION."

A PAPER READ BEFORE THE COLLEGE OF PRECEPTORS, LONDON, ENGLAND, JUNE 16TH, 1880.

BY R. WORMELL, D. SC., M.A.

Let us begin by asking a question, which has been asked a hundred times already, What is Technical Education? We must first settle the method in which the meaning is to be determined. Dr. Syntax would probably remind us of the origin of the word "technical," and conclude that it applies only to terms that belong exclusively to the arts and manufactures, and that if it means more it is a pity. But words in present use refuse to obey Dr. Syntax, and have but little respect for him; they are constantly altering the range of their application as new ideas and new things are found, and have to be provided for; and if we are to understand what is meant by this phrase, "Technical Education," which is used by different bodies of educated men, we must not be hampered by the remembrance of its origin, but must give it such an extended meaning as will make it include all that it is intended to mean by the different sections of men who use it. It will require a little attention to arrive at the meaning in this way.

In 1869 there was a meeting at the Mansion House on the subject. The Lord Mayor was in the chair. Many speeches were made, and at the end of each, the Lord Mayor asked,—“Is that Technical Education? Is that what you mean by Technical Education?” And at the conclusion the Worshipful contribution to the discussion of the day was a remark of a dozen words having quite as much vigour, and not more daintiness or accuracy of expression, than is often characteristic of the utterances of the Chief Magistrate of the city. As he rose to vacate the chair, he said,—“Gentlemen, Technical Education must be the devil's own word, for none of you know what it means.”

If we examine, first, the arguments in favor of it which are adduced by its advocates; and secondly, what it is supposed to do, and what not to do; we shall find that there are many and various views that may be taken of it; but these, with all their variety, when closely examined, exhibit no inconsistency.

In the first place, I remark, if the word "technical" simply meant what it does in the phrases "technical terms," "technical objection," "technical language," etc., there could be no such thing as "Technical Education." "Technical Instruction" there might be, but no "Technical Education." Let us next examine a few phrases and maxims in which it has been used.

A critic, commenting on the work of the Science Classes connected with South Kensington, says:—"The teaching has been too technical, in the sense of addressing technical phraseology to unaccustomed ears, and not sufficiently technical in the sense of supplying the necessary link between theoretical knowledge and its practical application."

Mr. Scott Russell's definition is as follows:—"Technical Education is that special training which renders the talents of the educated man directly useful to that society in which he is destined to pass his life." And in the dedication of his work, he asks "that the dexterous, energetic, willing, working people of England may receive a practical education for useful life, as thorough and systematic as the best educated nation in Europe." He goes on to describe the agitation with regard to this subject as "a crusade against the ignorance, disorganisation and neglect, which distress our manufacturers and commerce, and hinder our progress and well-being."

Professor Huxley says:—"Technical Education means that sort of education which is specially adapted to the needs of a man whose business in life it is to pursue some kind of handicraft; it is, in fact, a fine Greco-Latin equivalent for what in good vernacular English would be called 'the teaching of handicrafts.'" At first sight this definition seems more cramped than the previous one, but Professor Huxley proceeds to illustrate his meaning more

fully, and shows we are quite in accord, for he calls himself a handicraftsman and a teacher of a handicraft. "The fact is, I am, and have been any time these thirty years, a man who works with his hands—a handicraftsman. I do not say this in the broadly metaphorical sense in which fine gentlemen, with all the delicacy of Agag about them, trip to the hustings about election time, and protest that they too are working-men. I really mean my words to be taken in their direct, literal, and straightforward sense." And then, after sketching the course of exercise, both bodily and mental, which he would recommend as preparatory to the actual adoption of the manual employment, he says:—"Well, but you will say, this is 'Hamlet' with the Prince of Denmark left out; your 'Technical Education' is simply a good education, with more attention to physical science, to drawing, and to modern languages, than is common, and there is nothing specially technical about it." Exactly so; that remark takes us straight to the heart of what I have to say, which is that, in my judgment, the preparatory education of the handicraftsman ought to have nothing of what is ordinarily understood by technical about it.

I shall suggest to you, as a suitable definition for the present time, that *Technical Education is the development of the qualities of head and hand which are required for the successful pursuance of trade, and the progressive extension of our arts and manufactures.*

This definition recognizes the direct connection of Technical Education with trade, commerce, manufacture, public works, agriculture, navigation, architecture, etc., and is consistent with the view, that one of its principal aims is to lead each individual to know more thoroughly the fundamental principles of his own calling. It enables us at once to trace the connection between Technical Education and the teaching of Physical Science. We often find the statement of its need, coupled with the complaint that workmen, in all trades and all professions, are too much inclined to "work by rule of thumb," and are not fully conscious that Science is now the so-called foundation of skill. The knowledge required in our skilled trades and professions was formerly based on tradition. The three mysterious powers of heat, light, and electricity were regarded, until very recently, almost as supernatural agencies; and yet much of the work of the skilled men of our times consists in the liberating and controlling of heat, in the manipulation of the sun's rays, in the initiating and directing electrical currents. Traditional knowledge is now of little use; hence the need of Technical Education. But do we simply mean by it, the teaching of Science? We mean more. It involves the teaching of Science in a particular way. It is intended to promote the application of the discoveries of abstract science to the speediest, wisest, and most economical solutions of the practical problems of daily life and business.

There is a kind of science knowledge that is almost synonymous with practical wisdom; and there is a form of science which is fastidious and assumes airs, and despises practical usefulness, its proper offspring. Science knowledge, when judiciously selected and appropriately taught, adds very materially to the chances of industrial success, and Technical Education involves the teaching of science with this view. It is not a knowledge merely of natural laws that makes a people prosperous, it is the power of applying them to the every-day purposes of life. It is this application of science that is involved in Technical Education.

Scientific instruction becomes Technical Education, when, without ceasing to be thoroughly genuine and substantial, it adapts itself to the more or less divergent requirements of men of different trades and businesses.

Next let us ask to what sections of the community this education is to be given?

Although probably it is more important to the sections who are nearest to and most nearly connected with trade than to others, yet it concerns the nation as a whole, and in some form or other connects itself with education in all grades and for all ages. Technical Education is everywhere something to be added to existing general education.

I was much interested in the reports of the festivities on the 4th of June, at Eton, which appeared in a daily paper of the 5th. "A special feature of this anniversary of Eton's gala day, was the visit to the Museum of Natural History and School of Practical Mechanics, which have both been opened since the last fourth of June. There is throughout the Museum a manifest intention to subordinate mere 'curiosities' to useful series of specimens. Many monkeys and Fiji war-clubs have no habitation on the neat, workmanlike Eton shelves, for everything there is for use and not for

show; for its value in teaching the important lessons of physical science, and not as being merely ornamental or curious. From the Museum the visitors went to the School of Practical Mechanics, and the earnestness with which Young Eton has taken up this novel department, setting the example to our Public Schools of turning attention practically to the industries that have made England great, is beyond all praise. Immediately upon entering the iron lathe room, a steam-engine of probably five horse power, made from end to end by Etonians, is the first object that meets the eye; and, in the other rooms, all the wooden fittings to lockers and other adjuncts of a workman's laboratory, are the manufacture of Young Eton, admirable work it is too, conscientiously done, and excellent in its finish. The smithy, with its rows of bright fires, all waiting for the young blacksmiths, but waiting this fourth of June in vain, is a piece of delightful realism when met with in such surroundings."

This state of things at Eton leads one to call to mind some of Locke's thoughts on Education. Locke cared little for realism or the study of things, yet, in sketching the education of a country gentleman, he recommends his pupil to practise working in iron and metals, and remarks.

"He will be able to contrive and make a great many things both of delight and use, though these I propose not as the chief end of his labour, but as temptations to it.

"If this were of no other use but to drive out of fashion the common, vicious, useless pastimes, and to show there was no need for them, it would deserve to be encouraged. If men from their youth were weaned from that sauntering humour, wherein some out of custom let a good part of their lives run uselessly away, they would find time enough to acquire dexterity and skill in hundreds of things, which, though remote from their special callings, would not at all interfere with them. And, therefore, I think, a lazy, listless humour, that idly dreams away the day, is of all others the least to be indulged in young people. It is the proper state of one sick and out of order, and is tolerable in nobody else of what age or condition whatever."

He then refers to the mistaken parents, who, frightened with the disgraceful names of Mechanic and Trade, have an aversion to anything of the kind.

Not only in higher walks of life will it be found that the possession of the knowledge and skill which we are now considering will make life pleasanter and free from temptation. On a visit to a Midland town lately, I asked an old friend who had two sons about twenty years of age, "How are your boys?" "Joe is not doing well. He settles to nothing, and he causes us much trouble; but Ben is a good lad. He took to mackling a few years ago, so you may depend on his being steady. When a lad takes to 'mackling,' he can't be drawn into wrong. He has made a bicycle, the best that was ever made, all with his own hands, and he is now making a new sort of railway break."

But we can see several other good results that may follow the course adopted at Eton. It must have the effect of opening up a new profession for many talented men, to whom the Church, the Bar, and Medicine, offer such slender chance of eminence, and, by infusing such talent into industry, it must increase the prosperity of the nation. Further, the diffusion of a knowledge of the principles of trade and of handicraft-skill, must lead to a truer appreciation of each man's worth, and deepen the interest of each man in his neighbour's well-doing. When Technical Education prevails, every man's merits will be better known, and the fool and the ignorant man will find it impossible to become masters, managers, foremen, or directors.

There are many good results to be derived from Technical Education in high places, but it must be remembered that its most vigorous life can be found only where it is stimulated by the actual presence of trade. In the busiest towns and cities, and in the busiest parts of every town and city, there will be a natural demand for it, and it will have a natural and active existence, that it can never gain at Eton or Harrow, at Oxford or Cambridge. But the qualities required of the young race of men, who are to do the nation's work in the next generation, that they may secure the nation's prosperity, must be widely diffused, and Technical Education should aim at developing them in the whole youth of the nation.

We have to secure that the ingenuity and skill which have been characteristic of our people in the past, and have given us prosperity, shall not die out, but shall rather be improved. But everywhere there are signs that men might exercise more forethought,

practical wisdom, and make more provision for economy. Hence, everywhere there is need for Technical Education.

In endeavouring to find out "What Technical Education is," we have already gone into some of the arguments in support of it. There are a few yet which we must here consider. It is often stated that the skilled artisans of Great Britain are behind their confrères of Germany, France and Belgium, and that this arises from the Technical Institutions that flourish in the latter States. This form of the argument is usually accompanied by elaborate accounts and more elaborate statistics of these foreign institutions; but it too frequently happens that those who are warmest in their praise of the ways of doing things on the Continent, show themselves wonderfully ignorant of our own. Moreover, there are English ways of doing things which suit English minds and temperaments. If you could transplant the institutions which have flourished in France to English soil you could not guarantee their continued life. It might be found that they would languish and die.

A better argument is that furnished by considering simply the results of raising a generation of intelligent, educated, and trained people. The immediate consequences, of course, are found to be connected with trade, with art, and manufactures. A nation prospers in proportion to the work its people do. Intelligent men do better work than dullards. Trained and skilled men do better work than clumsy and awkward ones, and the more any man knows of the objects and methods of his work, and of the work of all those who co-operate with him, the more likely he is to do his own part well, and so as to make it exactly fit into and form one with the work done by his neighbours. An intelligent community of workmen will waste less in time and material, and give a higher value as well as quality and durability to all their work, than ignorant, unrefined, and ill-educated men.

The work of each citizen will have value in proportion as he can do it better than other citizens can, and the aggregate work of all the citizens will have greater value in proportion as each has been benefited in his own department. The highest value in the world's markets will be obtained by that nation which has been at most pains to cultivate the intelligence of its people generally, and afterwards to give each the highest education and training in his special calling. In other words, the value of a nation's work will be augmented in proportion to the excellence of its system of Technical Education.

There is a way of referring to the experience of foreign countries, which I think is perfectly legitimate. The following account is an example:—

"In every country," says the writer, an experienced engineer. "where Technical Education has taken root, and had time to bear fruit, I find unquestionable proofs of the rapidity with which increased intelligence and enlarged knowledge bring increase in employment and remuneration. From my personal experience, I may say that within the last twenty-five years I have seen large branches of commercial trade leave one country and plant themselves in another, because the workers of the one were educated and those of the other uneducated; and I have watched nations rising into importance and power in Europe by education, and by the order, organization, and efficiency which education bestows, and other nations lagging behind and losing their places by reason of their unwillingness to educate the higher or the lower classes of their people."

But, even without travelling, we might conclude that, what is here described would take place. Industry must in future be supported, not by a competition of local advantages, but by competition of intellect. A people not possessed of raw material, mechanical power, or brute labour, can set against the non-possession of these advantages, greater skill in using what they have, and can employ higher science in their treatment and application. They may buy the raw material and the skill of their highly educated and trained workmen, and may give it a value it could never have acquired at the hands of the uneducated and untrained men who at first possessed it.

The influence of capital may, for a time, purchase foreign talent. To some extent this is the case in England, and justifies the remark that the apathy of the nation in the education of her sons has sent her capital abroad, as a premium to the intellectual superiority of other nations.

I think we are now so far advanced with our subject as to be able to frame a scheme of Technical Education.

*1st Grade.*—Where is it to commence? and where to end? We may answer the first question by another, When do we begin to

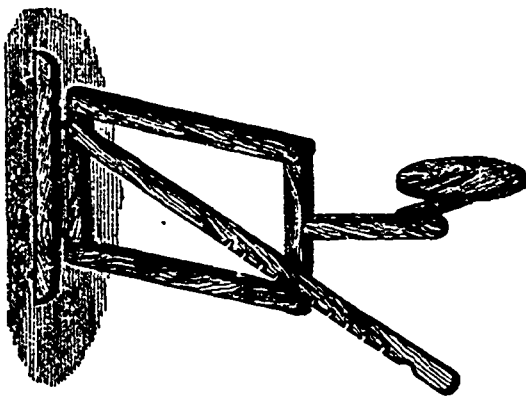
form the intellectual habits that are required for the conduct of industrial operations? Almost with the beginning of education. The Kindergarten teaching is an admirable beginning.

Again,—Technical Education will have a bearing on many things that are taught in the ordinary school course, giving the pupils the ability to use their knowledge for the purpose of bringing about special results, and giving them skill in applying that knowledge in special circumstances.

For instance, it is possible for an apt teacher to gather round his lessons in geography, much that is attractive in the study of nature, and much that is useful in trade and politics.

To show how the Technical Teacher, in the sense in which we are now using the term, would treat a matter of general teaching, and that his method would consist in adding something to what the general teacher would impart without weakening its effect, we may refer to his mode of treating a proposition of Geometry, the Science of Form. There is no science less practical, or more practical, according to the way in which it is taught. It may be little more than an antiquated puzzle in logic, or it may be a mine yielding rich treasures of useful application to the purposes of life.

Suppose the subject to be the parallelogram. The pupils prove that the opposite sides are equal. They discuss the use of this fact in measuring and transferring distances. Then follows the proof that, if the opposite sides are equal, the figure is a parallelogram. The practical consequences are immediately sought for. If the figure keeps the same sides, it remains a parallelogram. Hence, a jointed parallelogram easily changes its form, but once a parallelogram it is always a parallelogram. Here the practical manipulation comes in. A jointed parallelogram is made. It is not a strong structure. We give it strength, however, by the introduction of a diagonal. This leads us at once to the reason for a cross-bar in a gate. The diagonal has a fixed length for each inclination of its sides; we therefore fix the inclination when we fix the length of the diagonal. If one side of a jointed parallelogram be fixed in a horizontal position, the opposite side is horizontal. If a horizontal arm is attached to this, it may move up and down and be always horizontal. The pupils then go to their workshops with some such exercise as the following:—*Devise a jointed parallelogram which shall serve as a universal joint, supporting a horizontal table, that may be placed at any altitude within certain limits, and may occupy any distance from a fixed support within certain limits.* Each would work out the design in his own way. No two designs would be exactly alike, but all would be something like that represented in the figure. Ever afterwards, the parallelogram would be a very different instrument in the hands of these pupils from the vague and shadowy ABCD of the pupil who had simply learnt with infinite labour to repeat the text of a Simpsonised Euclid. I expect this little illustration to do much in showing what is the kind of addition to general instruction which Technical Education calls for.



*2nd Grade.*—The Technical Education which can be carried on in existing ordinary schools may be said to be of the 1st Grade. The 2nd Grade requires special Technical Schools. They should be at first affiliated, and connected with the schools for general education. I often reflect that one of the most important functions of the schoolmaster and schoolmistress is to direct the pupils to congenial and suitable employment on leaving school, and one of the most important of the functions of the Technical Educator is to select from amongst the members of the rising generation those who have most natural aptitude for industrial occupations,

to develop their powers and consecrate them to the most suitable trades and businesses. This can only be done when there is a most intimate alliance between the general and technical schools. Indeed, if it were not for questions of economy, it would be best that these should be combined in one and the same school; but Technical Education is so costly, and good teachers are so rare, that we must be content to secure one good technical school in common with several elementary and higher schools for general education.

Let me here refer again to the necessity for the Technical School receiving its life and spirit from the principal trade or business of the neighbourhood. In a mining district, the applications sought for will have as much reference as possible to mining; in a watchmaking district, to horology; and so on. In London, they must necessarily be of a more general character, with here and there a special charge, as of carving and design, some branch of engineering, brewing, some department of chemistry, dyeing, navigation. These same Technical Schools should take charge of what we may call the 3rd Stage, that is, they should take charge of these selected pupils who possess in a high degree intelligence combined with inventive ingenuity and practical cleverness, and interpose a special training during the few years which intervene between school-life and business. This is the place for me to notice one important object which Technical Education is asked to serve, viz.—to remedy the effects of the decay of the old apprenticeship system. All that was best and most valuable in the old system has vanished, and the little that remains belongs to its worst and least advantageous features. What is to replace this decayed and obsolete system? The answer is, a complete system of Technical Education.

It was formerly reckoned wise that the knowledge of a professional man should be kept secret as capital in trade, and no effort was neglected which would tend to throw a mystery about it. Its maxims and rules were concealed lest others should become as wise as the master, who had paid a heavy price for his initiation. Technical education aims at unveiling this mystery, and making occult knowledge public property; hence it will remove the need for heavy fees to the mystery men.

At the same time, as has been pointed out in an able report by Professor Ayrton, it is not the business of a Technical School to teach the manipulation or routine of a trade, or to become a rival to other manufactories. It is a school where are given general instruction in science, and special instruction in the application of these principles to the particular trade he is following or is able to follow. As our definition shows, it is not the teaching of trades we are considering, but the development of the qualities that are needed in trade.

*3rd Grade.*—Again, chiefly by means of evening work, education may be continued in these schools after business has been entered into. Here we are naturally led to ask at what age this process of training is to come to an end? It is not necessary to name the higher limit, for it should lose itself in reach. The Technical schools and colleges should be placed where the manufacturer and skilled artisan may carry out experiments under the eyes of scientific men, which he cannot carry out in the factory and workshop. Every industrial art is steadily undergoing change and development. It does not do for the manufacturer to stand still. A Technical School should assist those who are actually in business to penetrate beyond the knowledge of the processes of a manufacture which was at first given to them, and to make new observations and experiments relating to it.

But here a caution is necessary. In building up a system of Technical Education, it is necessary to guard against spending time in patching up defects arising from the want of system in the past. It is too late to mend the mated—we must aim at improving the rising generation.

*4th Grade.*—The form that Technical Education will assume towards the pupils of the 4th and final Grade, will be that of an University for the training of the more highly educated youth to the practical business of life. As a type of such an institution, we may select the Technical University of Zurich. Zurich is a commercial and manufacturing State—it is the Lancashire of Switzerland. It is also the scene of the labours of that indefatigable apostle of practical education, Pestalozzi. His spirit seems to haunt the land of his former toil, and to inspire his countrymen with the determination to perfect the work he so happily commenced.

In the Technical University of Zurich, everything that is most valuable in the sciences, arts, and manufactures of all other coun-

tries, is taught by the most distinguished men in their special departments, in the best manner which their wisdom can organise, and with all the practical means of learning which can be purchased or invented.

The University constructs a programme of methodical study, divided into eight groups, as follows:—

1. A course of architecture and building.
2. A course of civil engineering.
3. A course of mechanical engineering.
4. A course of mechanical chemistry.
5. A course of agriculture and forestry.
6. A course for men of science, professors, and teachers.
7. A general course of philosophy, statesmanship, literature, art, and political economy.
8. A preparatory course for bringing up pupils who are behind their contemporaries, especially in geometry, algebra, elementary, physical and chemical science, drawing and languages.

We meet with abundant testimony to the excellence of this foundation. One of its students, a young Englishman, who desired an education in a branch of civil engineering, and found it impossible to obtain that education in England, having passed through its course, returned to England and entered himself in the usual manner as a learner in the works of an eminent engineer:—"Here the advantages of Zurich soon showed themselves unmistakably; his superiority was so evident, that he soon rose over the heads of much older men, and long before his apprenticeship expired he had already been entrusted with heavy responsibilities and important duties, which could not be entrusted to men much older and more experienced, but less skilfully trained and less highly educated."

Here we will pause a minute to survey the field we have traversed. We have shown that the purpose of Technical Education is to increase the quantity and the quality of the handicraft-skill in the nation, and to connect it with the highest attainable intelligence. It is the business of the Technical Educator to teach whatever there is in the science, philosophy, learning, or art of modern times that has any bearing on the practical business of life, to show how the knowledge is to be used, and to discipline the possessor in its application.

We have pointed out that it naturally has four stages or grades. It is at first co-ordinate with general education. It is then auxiliary to, or a continuation of, general education. The principal maxim it puts before its disciples is, work and think, and work again, think and work, and think again. It selects the shrewdest and most handy amongst the young, and devotes them to industry. It assists them, guides them, and watches over them as they embark in their trades and professions, and finally it strives to pick out the exceptional powers to account for the good of industry.

You may probably think I have wasted time in proving what all must acknowledge. Nearly all do acknowledge the importance of a practical education, but I have frequently referred here, with some impatience, to the fact that there are still to be found in our high places of learning scholars and college dons who scoff at the practical applications of knowledge; and I have pointed out that society could not exist if all men acted on what these men profess. There is a method, in mathematics, of finding the value of a form by tracing the result to *infinity*, and we may estimate the worth of the opinions of some of our university teachers by a similar method. If their theories could prevail and be acted on to a large extent, the land would become a prey to poverty and distress, and finally to desolation and death. A friend of mine, more patient than myself, often says, in response to my complaints:—"They mean well, but they do not know. They do not know the meaning of what they say." To my mind no ignorance is so gross as that of the uneducated scholar who despises all that has direct reference to the practical business of life, to the well-being of society, to the commercial prosperity of the people.

JOHN I., 1.

To the Editor of the Canada School Journal.

SIR,—I was a little surprised, on reading your last issue, to find the thesis of my article and the fundamental principles underlying elocutionary analysis so perverted by J. H. Knight, P. S. I.

I trust you will allow me space in your next issue to correct a few errors the gentleman has, perhaps unwittingly, fallen into. In my last article I ventured the opinion that "with God" is only a secondary idea to the capital thought, "The Word was God;" and also that "if the word was God it must have been with God." Mr. Knight dissents from these opinions, and gives as his reason that, according to the Gentile ideas, the word might have been with God, but not God—in other words, might have been a god, but not the Supreme God, that is, he might have been a rival god." I submit that the phrase "with God" ought not to be interpreted according to Gentile ideas, which admitted a plurality of Gods, especially as it was one of the aims of the sacred writer to combat *polytheism* and establish the proper divinity of Christ, and the unity, not of location, but of nature, and authority of the Word with God. He says:—"In the beginning, that is, of the creation (for the writer evidently refers to the first word of the book of Genesis, *bereshith*, the expression here used), was the Word, that is, the word existed at the beginning of the creation, and consequently from eternity. He was when all things began to be; whatsoever had a beginning. And the Word was God, and God was the Word,—namely, before any created being had existed. Therefore, the Word must have been with God, and God with the Word.

The writer tells us, first, that the Word, in the beginning of the world, existed; next, that he existed with God, and, last of all, that he was God, and made all things. Now, taking up the point again, referred to by Mr. Knight, the Word might have been a god, that is, a kind of inferior deity, as governors are called gods. Dr. Doddridge says,—"This construction cannot be put upon it with impunity, that it is impossible he should here be so called, merely as a *governor*, because he is spoken of as existing before the production of any creatures whom he could govern;" and it is to me most incredible, that when the Jews were so exceedingly averse to idolatry, and the Gentiles so unhappily prone to it, such a plain writer as John should lay so dangerous a stumbling-block on the very threshold of his work, and represent it as the Christian doctrine, that, in the beginning of all things, there were *two Gods*, one supreme, and the other subordinate, a difficulty which, if possible, would be yet further increased by recollecting what so many ancient writers assert, that this gospel was written with a particular view of opposing the Corinthians and Ebionites; on which account greater accuracy of expression must have been necessary. On the other hand, to conceive of Christ as a *distinct* and *co-ordinate* God, would be equally inconsistent with the most express declarations of Scripture, and far more irreconcilable with reason. The words, as they appear in the original, *Θεος ἦν ὁ λόγος*, have induced some to translate the clause, God was the Word. So it was read in the old English translations, authorized by Henry VIII., and thus Luther rendered it in his German translation, "*Gott war das wort*." Now, according to the rules governing emphasis, we must transfer the emphatic stroke to those words in the verse that assert the meaning, viz.:—"In the beginning the Word was God." If Mr. Knight's reasoning is satisfactory to him, I think I am safe in surmising it will be very unsatisfactory to almost any one else. Mr. Knight considers my quotation (The British Empire was a strong nation) unfortunate, and says it (his objection) could not have that effect with "was God," for "once admit the divinity of the word from eternity, and you must admit His divinity to eternity." So we say "God cannot be less than God," cannot "cease to be God," to use Mr. Knight's words, and by parity of reasoning could not begin to be God, hence it is not necessary to put primary emphasis on "with God," for that is all conceded in the fact that he was "God," the main object of the Apostle's teaching. With regard to commentators, and their explanations of difficult passages, I do not doubt but that they are often valuable auxiliaries to the elocutionist in reading a passage, but they are far from being infallible guides when we come to the question of correct emphasis. The commentator may understand the meaning of a passage and not be able to read it, and place the emphasis properly. Take for example the 25th verse of the 24th chapter of Luke, "Then he said unto them, O fools, and slow of heart to believe all that the prophets have spoken." Now it is not to be questioned for a moment but that every commentator understands fully the meaning of the verse, and will Mr. Knight have the kindness to refer me to *one* Biblical scholar who has written on the above passage, and placed the emphasis upon the right words, so as not to pervert the true meaning of the Master. I merely refer to this to show that it is not always safe to follow, or be guided by commentators in reading a passage, especially with regard to emphasis. Their understanding it does not follow that they can always dictate just where the primary emphasis should



rest, or read it so that others can understand the meaning. As to Mr. Knight's quotations, "Cain was with Adam and Cain was Adam, Jacob was with Israel and Jacob was Israel," I can only say that if my quotation was unfortunate, his are extremely *absurd*, for there is no similarity between them and the "word was with God, and the word was God," for Cain and Adam were two distinct and separate beings, having separate natures, and not two in one as God and Son had. Jacob (for the same reason) could not possess two natures in one; therefore, these comparisons to God and the Word, Christ, are simply ludicrous, and need no further refutation. Mr. Knight must be groping in darkness.

In reference to Mr. Knight's "lastly," I have only to say that it is not necessary for us to discuss "whether many of the best orators have known nothing of rules" but whether, according to rules well understood, John I. should be read in *this way* or in *that way*.

Woodstock, June, 1880.

Respectfully yours,  
J. M. H. HARRISON.

Examination Questions.

EDUCATION DEPARTMENT, ONTARIO.

JULY EXAMINATIONS, 1880.

SECOND CLASS TEACHERS AND INTERMEDIATE.

ARITHMETIC.

TIME—THREE HOURS:

Examiner—J. A. McLELLAN, LL.D.

Values—Each 10 marks.

1. The G. C. M. of two numbers is 9187, and their L. C. M. is 684988944494: one of the numbers is 68590142, find the other.

2. (1) Divide 159.982 by .0009840018 to 7 places of decimals.

(2) Reduce  $\frac{61}{4649}$  to a periodic decimal.

(3) Reduce .7002457 to a vulgar fraction.

3. There is a rectangular garden whose length is to its breadth as 6 to 5; running round its outside is a gravelled path 8 yards wide; this path cost, at 18 $\frac{3}{4}$  cents per square yard, \$127.25. Find the dimensions of the garden.

4. Simplify  $\frac{2\sqrt{90}}{8\sqrt{108}} \times \frac{7\sqrt{192}}{5\sqrt{126}} \div \frac{4\sqrt{15}}{15\sqrt{21}}$ . Find the mean proportional between 3402 and 15172; and extract the square root of .000097199881.

5. The oxygen of the air is 8 parts (by volume) in 14 of the whole; 100 cubic inches of air weigh 81 grains, and the weight of oxygen is to that of air as 58:48. Find the number of grains of oxygen in a cubic foot of air.

6. A, B, and C do a piece of work; it would have taken A 2 $\frac{1}{2}$  times as long as B and C together, and B 3 $\frac{1}{2}$  times as long as A and C together. If they receive \$240.40 for the work, how much should each man receive?

7. Assuming that 90 cubic inches of lead, together with 81 cubic inches of cork, are equal in weight to 2808 cubic inches of pine, and that the weights of equal bulks of lead and pine are represented by the numbers 226.48, and 9, respectively; determine the proportionate weight of an equal bulk of cork.

8. A merchant in Toronto owes £560 stg. in London, and remits as follows: first to Paris at 5 francs 60 centimes per \$1; thence to Hamburg at 2 francs per marc; thence to Amsterdam at 17 $\frac{1}{2}$  stivers per marc; thence to London at 224 stivers per £1. If the expense of this circuitous exchange be 2 per cent. (i.e., of \$102 paid by the merchant, \$2 is lost in commission), find what it costs to discharge the London debt,

9. I had two notes whose aggregate face value was \$761.70, and each of which had 15 months to run; one of the notes was discounted at 10 per cent. bank discount, and the other at 10 per cent. true discount, and the total amount realized was \$671.50. Find the face of the note on which true discount was allowed.

10. A cylindrical silver wire, .0015 millimetre in diameter, weighs 3.2875 grammes; it is to be covered with a layer of gold .0002 millimetre in thickness. Required the weight of the gold, the specific gravity of silver being 10.47, and that of gold 19.26.

SOLUTIONS.

1. No. required =  $\frac{684988944494 \times 9187}{68590142} = 85044059.$

2. (1) 162688.0359258. (2) .0181211.

(3)  $\frac{700245}{999999} = \frac{285}{407}$

3.  $\frac{127.25}{.18\frac{3}{4}} = 678\frac{1}{2}$  no. sq. yds. in path.

$\frac{678\frac{1}{2} - 86}{8 \times 2} = 107\frac{1}{2}$  no. yds. in two adjacent sides of path.

∴ sides =  $\frac{6}{11}$  of 107 $\frac{1}{2}$  yds., and  $\frac{5}{11}$  of 107 $\frac{1}{2}$  yds., or 58 $\frac{1}{2}$  yds., and 48 $\frac{5}{11}$  yds.

4. (1) 4 $\frac{1}{2}$ . (2) 7184.8. (3) .009859.

5. No. grains =  $\frac{3}{4} \times 1728 \times \frac{4}{3} \times \frac{3}{100} = 126\frac{2}{5}$ .

A does work while A, B and C do 3 $\frac{1}{2}$  times work, ∴ A does  $\frac{7}{11}$  of whole work, and ∴ gets  $\frac{7}{11}$  of money = \$68.68 $\frac{7}{11}$ . B does work while A, B and C do 4 $\frac{1}{2}$  times work, ∴ B does  $\frac{9}{11}$  of whole work, and ∴ gets  $\frac{9}{11}$  of money = \$58.42 $\frac{9}{11}$ . ∴ C gets \$118.20 $\frac{4}{11}$ .

7. Wt. =  $\frac{2808 \times 9 - 226.48 \times 90}{81} = 4.8.$

8. Cost =  $\$560 \times 224 \times \frac{2}{85} \times 2 \times \frac{5}{28} \times \frac{102}{100} = \$2611.20.$

9. 761.70 - 671.50 = \$90.20 total discount.

Bank discount on \$761.70 = \$95.2125.

∴ Dif. = \$5.0125 = int. on true discount.

∴ True disc. =  $\frac{\$100}{112\frac{1}{2}} \times 5.0125 = \$40.16$

And note =  $\frac{\$112\frac{1}{2}}{12\frac{1}{2}} \times 40.16 = \$360.90.$

10. Wt. of gold

=  $\frac{(.00095)^2 - (.00075)^2}{(.00075)^2} \times \frac{19.26}{10.47} \times 3.2875$  grammes.

= 3.655+ grammes.

ALGEBRA.

TIME—TWO HOURS AND A HALF.

Examiner—J. C. GLASHAN.

Values.

4 1. Find the value of  $x^5 + x^4 - 166x^3 - 166x^2 + 81x + 81$  when  $x = -7$ ; and the value of  $x^3 - 8px^2 + (8p^2 + q)x - pq$  when  $x = a + p$ . (Arrange the latter result according to powers of a.)

4 2. What is the condition that  $x + b$  shall be a factor of  $ax^2 + bx + c$ ?

Find the factors of

5 (a).  $(a^2 - ab) + 2(b^2 - ab) + 8(a^2 - b^2) + 4(a - b)^2$ ; and

8 (b).  $(ax + b)(bx + c)(cx + a) - (ax + c)(bx + a)(cx + b).$

4 3. What must be the relation among  $a, b, c$  that  $ax^2 + bx + c$  may be a perfect square?

5 (a). Extract the square root of

$(a - b^4 - 4(a^2 + b^2)(a - b)^2 + 4(a^4 + b^4) + 8a^2b^2).$

8 (b). If 5 be subtracted from the sum of the squares of any four consecutive numbers, the remainder will be a perfect square. (Prove this.)



5 4. If  $\frac{a}{b} = \frac{c}{d} = \frac{e}{f}$  and  $\frac{h}{k} = \frac{l}{m} = \frac{n}{p}$

prove that  $\frac{(a+c+e)(h+l+n)}{(b+d+f)(k+m+p)} = \frac{ah+cl+en}{bk+dm+fp}$ .

5 (a). Reduce  $\frac{ab(x^2-y^2)+xy(a^2-b^2)}{ab(x^2+y^2)+xy(a^2+b^2)}$  to its lowest terms.

8 (b). If  $xy+yz+zx=1$  prove that  $\frac{x}{1-x^2} + \frac{y}{1-y^2} + \frac{z}{1-z^2} = \frac{4xyz}{(1-x^2)(1-y^2)(1-z^2)}$ .

4. Prove that

5 (a).  $\frac{2\{x+2+\sqrt{x^2-4}\}}{x+2-\sqrt{x^2-4}} = x+\sqrt{x^2-4}$ .

5 (b).  $(b+c-a)a^3+c+a-b)b^3+(a+b-c)c^3 = (a+b+c)(a^3+b^3+c^3)-2(a^2+b^2+c^2)$ .

6. Solve the equations—

5 (a).  $(b-c)(x-a)^2+(c-a)(x-b)^2+(a-b)(x-c)^2=0$ .

8 (b).  $x+y=4xy; y+z=2yz; z+x=8xz$ .

8 (c).  $x+y+z=0$ .  
 $ax+by+cz=0$ .  
 $bcx+cay+abz+(a-b)(b-c)(c-a)=J$ .

8 (d).  $\frac{x-1}{x+8} + \frac{x-8}{x+1} + 2=0$ .

SOLUTIONS.

1. (1.) On dividing by  $x+7$  (use Horner's method) we find that expression equals  $(x^4+8x^3-166\cdot21x^2-49\cdot659x+115\cdot7571)(x+7) - 02997$ , which, when  $x=-7$ , becomes  $-02997$ , the factor  $x+7$  vanishing.

(2.) Similarly this expression becomes  $a^3+ag+p^3$ .

2. The remainder on dividing by  $x+b$  is  $a(-b)^3+b(-b)+c=ab^3-b^3+c$ , and required condition is hence evidently  $ab^3-b^3+c=0$ .

(a).  $=(a-b)\{a-2b+8(a+b)+4(a-b)\}=(a-b)(8a-8b)$ .

(b). Putting  $a=b$ , we see that  $a-b$  is a factor, and thence by symmetry  $b-c$  and  $c-a$ ; also  $x$  and  $x-1$  are evidently factors, the expression vanishing when  $x=0$  and  $x=1$ .

Also the terms of six dimensions ( $abcx^3$ ) evidently destroy each other. Hence the only literal factors are the above, and we may assume expression

$=A(a-b)(b-c)(c-a)(x-1)x$ .

And assigning numerical values to  $a, b, c, x$  (say  $a=1, b=2, c=3, x=2$ ) we see that  $A=-1$ . Whence expression equals  $-(a-b)(b-c)(c-a)(x-1)x$ .

3.  $b^3=4ac$ .

(a). Expression  $=(a-b)^3-4(a-b)^2(a^2+b^2)+4(a^2+b^2)^2 = \{a-b\}^2-2(a^2+b^2)^2$ .

The square root of which is  $\pm\{(a-b)^2-2(a^2+b^2)\}=\mp(a+b)^2$ .

(b).  $x-2, x-1, x, x+1$ , will represent any four consecutive numbers. The sum of their squares is  $4x^2-4x+6=(2x-1)^2+5$ , and whatever be the value of  $x, (2x-1)^2$  is a perfect square.

4. Let  $\frac{a}{b} = \frac{c}{d} = \frac{e}{f} = x; \therefore a=bx, \text{ etc.}, \text{ and } a+c+e=(b+d+f)x$   
 $\frac{h}{k} = \text{etc.}, =y; \therefore h=ky, \text{ etc.}; \text{ and } h+l+n=(k+m+p)y$ .

Hence  $\frac{(a+c+e)(h+l+n)}{(b+d+f)(k+m+p)} = xy$ .

Also  $\frac{ah+cl+en}{bk+dm+fp} = \frac{bkxy+dmxy+fpxy}{bk+dm+fp} = xy$ .

(a)  $\frac{abx^2-aby^2+a^2xy-b^2xy}{abx^2+aby^2+a^2xy+b^2xy} = \frac{ax(bx+ay)-by(ay+bx)}{ax(bx+ay)+by(ay+bx)} = \frac{ax-by}{ax+by}$ .

(b)  $\frac{x}{1-x^2} + \dots = \frac{x(1-y^2)(1-z^2)+\dots}{(1-x^2)(1-y^2)(1-z^2)}$   
 $= \frac{x+y+z-x(xy+yz)-y(yz+yx)-z(zx+zy)+xyz(xy+yz+zx)}{(1-x^2)(1-y^2)(1-z^2)}$   
 $= \frac{x+y+z-x(1-yz)-y(1-zx)-z(1-xy)+xyz}{(1-x^2)(1-y^2)(1-z^2)}; \therefore xy+yz+zx=1$   
 $= \frac{4xyz}{(1-x^2)(1-y^2)(1-z^2)}$ .

5. (a)  $= \frac{2(x+2+\sqrt{x^2-4})^2}{(x+2)^2-(\sqrt{x^2-4})^2}$ , rationalizing the denominator.

$= \frac{2\{x^2+4x+4+2(x+2)\sqrt{x^2-4}+x^2-4\}}{x^2+4x+4-x^2+4} = \frac{2\{2x(x+2)+2(x+2)\sqrt{x^2+4}\}}{4(x+2)} = x+\sqrt{x^2-4}$ .

(b) Transfer  $2(a^2+\dots)$  to the left side, which then becomes

$(b+c+a)a^3+\dots+(a+b+c)(a^3+b^3+c^3)$ .

6. (a)  $(b-c)\{x^3-8ax^2+8a^2x-a^3\}+\dots=0$ .

And without multiplying out it may be seen that coeffs. of  $x^2$  and  $x^3$  disappear, and

$x = \frac{a^3(b-c)+\dots}{8\{a^2(b-c)+\dots\}} = \frac{(a-b)(b-c)(a-c)(a+b+c)}{8(a-b)(b-c)(a-c)} = \frac{1}{2}(a+b+c)$ .

(b). Transform to  $\frac{1}{y} + \frac{1}{x} = 4$ , &c., finding  $\frac{1}{x}, \frac{1}{y}, \frac{1}{z}$ .

$x = \frac{2}{5}, y = \frac{2}{8}, z = 2$ .

(c).  $x=b-c, y=c-a, z=a-b$ .

(d).  $x=-1 \pm \sqrt{2}$ .

EUCLID.

TIME—TWO HOURS AND A HALF.

Examiner—J. J. TILLEY.

Values.

6 1. Define Right Angle, Rectilinear Figure, Scalene Triangle, Postulate, Parallel Straight Lines, Gnomon.

10 2. (a) If two triangles have two sides of the one equal to two sides of the other, each to each, but the angle contained by the two sides of the one greater than the angle contained by the two sides of the other, the base of that which has the greater angle shall be greater than the base of the other.

4 (b) What restriction does Euclid make in his construction, and why?

10 3. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects it, that is, divides it into two equal parts.

10 4. To describe a parallelogram that shall be equal to a given triangle, and have one of its angles equal to a given rectilinear angle.

10 5. If a straight line be divided into any two parts, the rectangle contained by the whole and one of the parts is equal to the rectangle contained by the two parts together, with the square on the aforesaid part.

10 6. If a straight line be divided into two equal, and also into two unequal parts, the squares on the two unequal parts are together double of the square on half the line, and of the square on the line between the points of section.

10 7. Through a given point draw a line, so that the parts of it, intercepted between that point and perpendiculars upon it from two other given points, may be equal to each other.

- 10 8. BODF is a four-sided figure, having the side BO parallel to the side FD. If BD and FO be joined by straight lines intersecting in K, show that the lines BD and CF are together greater than the two lines BF and OD, also that the triangle CKD is equal to the triangle BKF.
- 10 9. ABCD is a rectangle, E any point in BC, and F any point in CD. If AF, AE and EF be joined, show that the rectangle ABCD is equal to twice the triangle AEF, together with the rectangle EB DF.
- 10 Produce one side of a scalene triangle so that the rectangle under it and the produced part may be equal to the difference of the squares on the other two sides.

SOLUTIONS.

2. (b) The angle EDG is made at D in ED, the side which is not the greater of the two DE, DF. If this were not done, three different cases would arise,—the point G might fall above, on or below EF.

7. Let A be the point through which the line is to be drawn and B, C the other two points. Bisect BC in D; join DA, and through A draw bAc perpendicular to AD. Then if Bb, Cc be perpendicular to bAc, we may readily prove bA, cA equal.

8. (1)  $BK + KF > BF$ , and  $CK + KD > CD$ ;  $\therefore BD + CF > BF + CD$ .

(2) Because BC is parallel to FD, the triangles FBC, DBC are equal. Take away the common triangle KBC, and the remainders of the triangles KBF, KCD are equal.

9. Through E, F draw EG, FG parallel to the sides, and meeting in G within the triangle. The rectangle AC is equal to the rectangles BE.DF + BE.CF + EC.DF + EC.CF, of which the latter three are respectively double the triangles AEG, AFG, EFG, which make up the triangle AEF.

10. Let ABC be the triangle. To BC apply a rectangle BCDE equal to the difference between the squares on AB, AC; and in BC produced take CF equal to CD.

NATURAL PHILOSOPHY.

TIME—TWO HOURS AND A HALF.

Examiner—J. J. TILLEY.

Value of each of the first six questions 13, and of each of the last three 14.

1. What conditions are necessary so that three forces acting on a body may maintain equilibrium?

Show how the following forces may be arranged so as to produce equilibrium:—(i.) 4 lbs., 5 lbs. and 7 lbs. (ii.)  $(\sqrt{7} + \sqrt{5})$  lbs.  $(\sqrt{7} - \sqrt{5})$  and  $2\sqrt{7}$  lbs. (iii.) 1 lb., 4 lbs. and  $\sqrt{17}$  lbs.

2. Examine the truth of the following statement:—"If three forces acting on a body are parallel to the sides of a triangle they will keep it at rest."

A rod AC (supposed without weight) hinged at C, has a weight of 200 lbs. hung at A, and is kept in position by a horizontal tie-rod AB. The angle BAB is  $80^\circ$ ; find the tension of the tie-rod and the thrust along AC.

3. If two sides of an equilateral triangle, take in order 8 ft. long represent in direction and magnitude two forces acting at a point, find two equal forces, acting at an angle of  $120^\circ$  to each other, which will, with these forces, produce equilibrium.

4. In a system of four pulleys, each hanging by a separate string, the weight of each pulley being 1 lb. find the relation between the power and the weight.

If a force of  $2\frac{1}{2}$  lbs. just supports a weight of 45 lbs. in such a system, and the weight of the pulleys be equal, find the weight of each pulley.

5. If a substance be weighed in a balance having unequal arms, and in one scale appear to weigh m lbs. and in the other n lbs.

what is the true weight of the substance, and what is the ratio between the lengths of the arms of the balance?

6. Find the ratio of the power to the weight in the case of the inclined plane when the power acts [i.] parallel to the plane, [ii.] parallel to the base.

Show that the power is most effective when acting parallel to the plane.

7. Define Specific gravity, and show how to find the specific gravity of a body lighter than water.

A piece of wood weighs 4 lbs. in air and a piece of lead weighs 5 lbs. in water. The lead and the wood together weigh 4 lbs. in water; determine the specific gravity of the wood.

8. Describe, using diagram, the structure of the lifting pump. What determines the height to which water may be raised by means of it?

Describe the thermometer. At what temperature will the reading of the Fahrenheit thermometer be three times as great as that of the Centigrade? Give your answer in degrees Fahrenheit.

9. A cubical block of wood whose edge is 18 inches and whose sp. gr. is .75 is placed in water and pressed by a force into such a position that its upper surface, which is horizontal, is just one foot below the surface of the water; find the pressure on the whole outside of the cube, and the downward force acting upon it.

SOLUTIONS.

1. (i) Take AB a line = 4; from it cut off AC = 1; draw CD perpendicular to AB, and from centre A with radius 5 describe a circle, cutting CD in D. Then the forces 4, 5 act along AB, AD, the force 7 will act opposite to the diagonal of the parallelogram of which AB, AD are adjacent sides. (ii) The two first forces act together in a straight line and the force  $2\sqrt{7}$  directly opposite to them. (iii) 1 and 4 act at right angles, and  $\sqrt{17}$  opposite to the diagonal of the parallelogram of which the former are adjacent sides.

2. Suppose BC vertical; then the tension, thrust and weight are proportional to AB, AC, BC. Hence tension =  $200\sqrt{3}$ , and thrust = 400.

3. The angle between the directions in which the forces act is  $120^\circ$ . Hence the required forces must act along one side of the triangle and opposite to the other, and will be equal to the other two forces.

$$4. P = \frac{W}{16} + \frac{1}{16} + \frac{1}{8} + \frac{1}{4} + \frac{1}{2}; \text{ or } 16P = W + 15.$$

$$2\frac{1}{2} = \frac{45}{16} + \frac{\text{wt. of pulley} \times 15}{16}; \text{ i.e., wt. of pulley} = -\frac{1}{8}.$$

We suppose the pulleys are lighter than the surrounding medium, and therefore are buoyed up with a force =  $\frac{1}{2}$  lb.

5. Let a, b be the lengths of the arms and x the weight of the substance. Then  $ax = bm$ , also  $bx = 4an$ ;  $\therefore abx^2 = 4mnab$  or  $x = 2\sqrt{mn}$ .

$$\text{Also } \frac{a}{b} = \frac{bm}{4an}, \text{ or } \frac{a^2}{b^2} = \frac{m}{4n}, \text{ or } \frac{a}{b} = \frac{1}{2}\sqrt{\frac{m}{n}}.$$

7. The wood is buoyed up in the water with a force of 1 lb. Hence wt. of water displaced by wood = 1 lb. + wt. of wood = 5 lbs.  $\therefore$  sp. gr. of wood =  $\frac{4}{5} = .8$ .

8. Let x = required temperature Fahr. Then  $(x - 32) \frac{5}{9} =$  this temperature expressed in Centigrade. Hence  $x = 3(x - 32) \frac{5}{9}$ , or  $x = 80^\circ$ .

9. Vol. of cube =  $\frac{27}{8}$  cub. ft., surface =  $\frac{9}{2} \times 6 = 18\frac{1}{2}$  ft.; depth of its centre of gravity =  $1\frac{1}{4}$  ft.

$$\therefore \text{pressure on surface} = 18\frac{1}{2} \times 1\frac{1}{4} \times 1000 \text{ oz.} = 23625 \text{ oz.}$$

$$\text{Downward force} = \text{upward press. of displaced H}_2\text{O.} - \text{wt. of cube} = \frac{27}{8} \times 1000 - \frac{27}{8} \times 1000 \times .75 = \frac{27}{8} \times 1000 \times \frac{1}{4} = 843\frac{3}{4}.$$

Want of space compels us to hold over our correspondence until next month's issue.

## Practical Department.

### ELOCUTIONARY STUDIES.

BY RICHARD LEWIS, PROFESSOR OF ELOCUTION, TORONTO.

#### *The Trial Scene—Merchant of Venice.*

Schlegel has pronounced the "Merchant of Venice" to be one of the most perfect of Shakespeare's works; and it may be safely added that in no other dramatic production of any author can there be found a single scene equal in dramatic effect, in completeness of design, in the absorbing interest of the plot, but, above all, in the varied manifestations of character, to the Trial Scene. It is, as the same critic observes, "in itself a perfect drama, concentrating in itself the interest of the whole." It is these high qualities that commend the Trial Scene as an admirable study to the elocutionist. Criticisms, commentaries, philological notes, and explanations of difficulties will aid the end in view. But the elocutionary study takes higher ground than these. The most important passages of this or any other dramatic scene depend upon a just understanding and vivid truthful conception of the characters; the analysis of their mental condition as they speak must be realized, to represent what Shakespeare has created, by tones of voice and facial expression, by the glance of the eye and the silent eloquence of the hand. It is the study of human nature when hatred and terror and justice and mercy meet in mortal conflict, and are manifesting their most awful or their holiest attributes.

The principal characters in the scene are Shylock, Portia, Antonio the Merchant, and Bassanio the husband of Portia. It is scarcely necessary to describe the special characteristics of each of these persons. Portia, the impersonation of womanly intellect of the highest order, and of womanly loveliness which surrounds and pervades and guides that intellect, so as to take from it all the sternness and repulsiveness which mere intellect without amiability tends to inspire, has been described by no commentator with more force and eloquence than Mrs. Jamieson. But the student of Shakespeare must act rather upon his own judgment, guided but not governed by critics; and a just reading of the play will be the best preparation for the study of Portia, when she takes upon herself the office of advocate in the judgment hall. Before entering upon the analysis of the scene, I must, however, give a brief view of Shylock and Antonio. Before the time of Macklin, who was a contemporary of Pope, the character of the Jew was utterly misconceived, and his impersonation was assigned to a low comedian, who, with grimaces and buffoonery, excited laughter and mockery where terror and aversion only should be awakened. I cannot account for this strange conception of a character whose language is so marked by the eloquence of malignity and whose burning hatred of his Christian persecutors becomes sublime in its very fervor; unless we are to understand that the public prejudice and injustice, which almost justify the malice of Shylock, prevailed long after Shakespeare's time, and forbade the people to believe a Jew could feel the sense of wrong so deeply as to have passions aroused which in their power commanded respect because they excited terror. But it is certain that when Macklin threw all the energy and poetry of tragedy into his impersonation, Pope instantly appreciated the just conception which the actor, and not the commentator, had formed, and exclaimed,

"This is the Jew  
That Shakespeare drew."

From that time the Merchant of Venice has continued to be one of the most popular of the Shakespearian dramas, and Shylock has held rank amongst the highest of tragic representations. But com-

mentators have passed from one extreme to the other in the estimate of the character, and now generally unite to pronounce him utterly cruel, vindictive, bloodthirsty and favaricious. But the avarice was rather an instinct of self-preservation than a vulgar greed of money. There was no justice nor mercy for the Jew in that persecuting age. Scorn, contempt, fraud, robbery and the *auto da fe* conspired to bear down his race; and all the Christian nations of the earth regarded it as a Christian duty to rob and cheat and persecute the people whose financial skill was often indispensable to their commercial prosperity and their national existence. Hatred and revenge seem to be the master passions in the nature of Shylock; but when the student has read that indignant reply to Antonio, in which he recounts the intolerable wrongs, the meanness of the persecutions which Antonio and his noble friends had been in the daily habit of pouring on the Jew because he was defenceless, he must admit that, from a human and Jewish point of view, the hatred and the revenge of Shylock were the inevitable results of injustice and of that resentment which the sense of wrong excites in all men, especially when they feel as Shylock felt, that they are in mental powers superior to their persecutors. Of course, I form this view from the Jewish standpoint, and with the object of aiding the student rightly to comprehend the character. The highest elocution is that which gives truthful expression to the language which embodies thought and passion, and the student must have no antipathies, but only the fullest sympathy with the character he is to represent.

Antonio is a character of less importance and difficulty. But commentators are disposed to give him all the qualities of generosity, liberality and manliness, which they deny to Shylock. He is generous to his friends. But he who could trample upon the weak, and cast every insult upon a persecuted race because it was helpless, was wanting in some of the highest qualities of true manliness. When Shylock says:

"You call me misbeliever, cut-throat dog,  
And spit upon my Jewish gaberdine,"

there was not only cause to justify hatred but to despise the persecutor. During the trial scene the better qualities of Antonio are exhibited. He neither whines nor trembles before his unrelenting enemy; and as it is this manly bearing which redeems him from much that is mean in his character, it is from this aspect that he must be represented in this scene.

I must here state that the study of this scene is founded upon the regular play, not upon the mutilated abstract of it in the Fifth Reader.

In the opening of the court, the Duke, with great condescension and dignity, appeals to the mercy of Shylock. All that can be said about the delivery of his speech is that it simply demands calmness marked by an expression of respect for the Jew and of sympathy with Antonio in the period under which he lies. But there must be an instant change of tone and manner in the reply of Shylock. Appealing only to law, and relying on the right which justifies his demands, his bearing is stern, commanding and relentless. He speaks as one who neither expects nor intends to show mercy; and from that point of view, arguing simply on the legality and the justice of his claim, his defence is unanswerable. In the utterance of the oath,

"And by our holy Sabbath | have I sworn |  
To have the due and forfeit of my bond"—

he must, with eyes and hands uplifted, assume all the religious solemnity which as a Jew Shylock feels for that Sabbath; while in the second line his inflexible purpose is uttered in loftier tones, marked by a sternness of hatred and a merciless determination which become grand in their very terror. To give effect to both lines, pervaded as they must be by the suppressed passion, the words must

be uttered in slow time, marked by that tremor of voice in which all suppressed passion is spoken. But he knows how vain the oath and the threat of a Jew must be before such a tribunal, and so with admirable tact he at once assails his judges in their weakest point. As a trading community whose very prosperity depended on the fidelity of their laws and relations with "aliens," he appeals to the city's charter and freedom.

"If you deny it | let the danger | *light*  
Upon your *charter*—and your *city's freedom*."

Here again he changes his manner. There was the religious solemnity of an oath followed by the determination to pursue his vengeance. With that his judges had no sympathy. But here in this warning he is representative, with a powerful constituency; and so his manner changes, and is marked by greater dignity and the consciousness of superiority.

"You'll ask me—*why* | I rather choose to have  
A weight of *carion flesh* (*contemptuous*) than to receive  
Three thousand ducats (*very slow*). I'll not answer that:  
But say, it is | *my humour*: is it answered?"

A falling inflexion on "answered" will be more significant of the satisfaction that he can carry his point. He knows his power, for the law is with him.

"What if my house be troubled with a rat."

Antonio is no more than "a rat" in his estimation—a thing that must be killed, and so the word is delivered with an expression of hatred and loathing.

"And I be pleased to give ten thousand ducats  
To have it *bàned*? What, are you answered yet?"  
Some men there are | love not a *gaping pig*;  
Some that are *mad*—if they behold a *cat*:  
"Now for your answer."

Shylock feels at this point that intellect is triumphing over mercy. He delivers these words, and all that follow, with the imperious satisfaction of success; and, hurried along by the impetuosity of his malignity,—his contempt too for all opposition, his vehemence rises into the sublimity of passion, reaching its climax in the words "hate" and "loathing." The utterance of these words will be most effective by using the strongest aspirated emphasis, that is, a quality of voice in which the breath mingles with the voice like a powerful whisper, reaching its fulness on the word "loathing." Edmund Kean and his son Charles successfully imitated him, made the hearer shudder with the intensity of his hatred, as, in the manner described, he flung his impassioned malignity against Antonio.

"Now for your answer:  
As there is no firm reason | to-be-rendered |  
Why he cannot *abide* a *gaping pig*,  
Why he | a *harmless* | necessary *cat*;  
So can I give no reason, nor I will not,  
More than a *lodg'd* | *HÀTE* | and a certain *LOATHING*  
I bear *Antonio*, that I follow thus  
A losing suit | against him. Are you answered?"

The final question must end with the falling inflexion, as if Shylock had said "That is my answer."

"Bassanio. This is no answer, thou unfeeling man,  
To excuse the current of thy cruelty."

Shylock next turns to Bassanio with an expression of utter contempt in his aspect and voice, which changes to the fiercest hatred and suppressed anger in the latter part of the dialogue.

"Shylock. I am not bound to please *thee* with my answer."

A rising inflexion is better than a falling on "thee," because a falling inflexion would indicate contrast and defiance, while the rising inflexion, in this case, with the tone prolonged, best expresses mockery and contempt.

Bassanio. Do all men *kill* the things they do not love?  
Shylock. *Hates* any man the *thing* he would not *kill*?

Bassanio. Every offence is not a *hate* | at first.

Shylock. *What* | would'st thou have a *SERPENT* sting  
thee *twice*?"

It is impossible to describe the precise manner of delivering this line. When uttered by the Keans, it fell on the ear like the hissing of a serpent in the act of piercing its victim with its poisonous fangs.

Nothing marks the delivery of Antonio's reply but a calmness and dignity of tone, expressive of resignation to his fate. But Bassanio again interferes with a liberal offer to bribe Shylock, whose answer, full of scorn and defiance, is given with slowness but fierce energy, indicating a resolution unshaken as a rock.

Bassanio. For thy three thousand ducats here is *six*.

Shylock. If every ducat | in six thousand ducats

Were in *six parts*, and *every part* a *DUCAT*  
I WOULD NOT DRAW THEM. *I would have my bond*.

In the speech that follows, Shylock again defends his motives and conduct with a logic which, viewed from the Jewish standpoint, cannot be answered. His manner should, however, be calmer and more dignified. He is addressing the Duke, and he is conscious that in reasoning on his claim there is none in the court that can reply to him.

Duke. How shalt thou hope for *mèrcy*, *rend'ring* none?

Shylock. What *judgment* shall I dread, doing no *wròng*?

You have among you many a purchased *slave*,  
Which like your *asses* | and your *dogs* and *mules*  
You use in abject and in *slavish parts*,  
Because | you *bought* them.

The force of the argument evidently lies in the fact that as Christians robbed human beings of their rights because they had bought them, he was acting only on the same Christian principle. But the reading, especially in the simile, is expressed with bitterness and contempt for their inconsistency. Hence the words "asses" and "dogs" receive this emphasis.

Shall I say to you,  
Let them be *frèe*—*màrry* them to your *heirs*?  
Why *sweat* they | under *burthens*? let their *bèds*  
Be made as *soft* as *yours*, and let their *pàlates*  
Be seasoned with such *vànds*?

The series of sentences that follow "Shall I say to you" are all objects of this sentence, and as objects they must each end with the inflexion which any single object of "say" would take. Besides, a change of inflexion on the object would be inconsistent with the excitement under which Shylock presses this argument.

You will answer,  
The *slaves* are *ours*—So do I answer *you*:  
The pound of flesh which I demand of him,  
Is *dearly* bought; 'tis *mine*—and I will *HAVE* it.

The last part of this line must be delivered in tones full of force, firm, resolute as the will which dictates them. There must be a very terror in their utterance—the terror of the fixed and cruel revenge which pervades them.

"If you deny me, *fiè* upon your *law*!  
There is no *force* in the decrees of Venice."

Utter these words slowly and deliberately so that they shall fall ominously, warningly, and rebukingly on the ear.

"I stand for judgment: ANSWER; shall I *have* it?"

This again is a question which, like a preceding one, is not one of inquiry but command, and therefore takes the falling inflexion, while the whole statement is uttered with imperious dignity prompted by a sense of right and superior power.

The dialogue that follows is unimportant. The friends of Antonio endeavour to support him. Then Nerissa, the waiting maid of Portia, disguised as a lawyer's clerk, enters the court with a letter from Bellario, an eminent lawyer, whom Portia had consulted. In the meantime, as the Duke is reading the letter, Shylock bends his knee to the floor, and with deliberate coolness sharpens his

knife. The text would suggest that this act was done upon the sole of his shoe; but as that mode of "whetting" the knife is not very graceful, the fashion of the great actors has been to sharpen it by sweeping it in wide ranges over the stage floor, not rapidly, but with slow and formal movement. The text is thus sacrificed to stage effect. Of course when the scene is given as a reading all such action is unnecessary.

*Bassanio.* Why dost thou whet thy knife so earnestly?

*Shylock.* (He pauses a moment, and not deigning to look at Bassanio, but pointing with terrible significance to Antonio, answers) 'To cut the forfeiture from that BANKRUPT there.

*Gratiano.* Can no prayers pierce thee?

*Shylock.* No,—none that *thou* hast wit enough to make."

The reply of Gratiano is marked by fervid indignation, but listened to by Shylock with contemptuous indifference, and his answer, which he gives, tapping the bond with his knife, is cool, as if conscious of his power. But, as a plaintiff who has a weightier duty than to dally terms with a youth, he resumes his dignity, which contrasts so finely with his flashes of scorn, as he utters the words "I stand here for law."

I reserve the remainder of the review for another paper. Portia will enter upon the scene; and as she is in all respects equal in importance to Shylock, a careful analysis of her character, and a full knowledge both of her motives and her plans will be necessary.

## TEACHING SPELLING.

BY A. A. MILLAR.

1. Arouse the pupil's pride. Let him once feel that bad spelling is a disgrace, and half the battle is won. Children should be taught to avoid a wrongly spelled word as they would a contagious disease. At the same time they should look on correct spelling as a matter of course, and as not, in itself, meritorious. A great cause of poor spelling is the prevalent notion that it does not matter how a word is spelled so that its identity be not lost. When pupils learn that intelligent readers measure the culture of the writer of a letter by his spelling, the first great obstacle to teaching spelling is removed.

2. Spelling should be taught in classes as a separate study. It will do to depend upon other recitations in this particular, when it will do to teach reading in connection with the grammar class solely, or when the study of geography can be properly confined to the use made of it in teaching history. Not only should spelling be taught as a separate study, but lessons should be assigned in advance of the recitation, that opportunity to study them may be had. Primary pupils cannot study in a better way than to write the word of the lesson on their slates, and the words of the reading lesson should constitute the spelling lesson. When the lesson has been repeatedly copied from the book, let it be written from dictation, and afterwards spelled orally. Care is to be taken that as few words as possible be misspelled, for errors are very like to be repeated. Let words in common use be first taught; words to which pupils can attach some meaning, giving new words as their fund of information increases. Merely technical words had better be avoided until there is a need for them. Besides these separate classes, all recitations should be, to a certain extent, recitations in spelling. When a new word occurs, have it spelled and defined. If this cannot be done, there is no use of the pupil who fails going further in that recitation until he consult the dictionary.

3. Pronunciation—that is, correct pronunciation on the part of the teacher, is a powerful aid to the study of spelling. In dictating words, many teachers are apt to pronounce so plainly as to be incorrect; each syllable being enounced with labored distinctness, and an utter disregard for the laws of pronunciation. If the pupil is unable to spell a word, he has only to say that he does not understand it in order to have it so pronounced as to leave no doubt as to its orthography. Of course, he will miss this same word the next time he has occasion to use it. Carelessness of pronunciation on the part of the pupils cannot be too carefully guarded against. We spell as we pronounce—to a great extent. If *part-i-ci-pale* be pronounced with three syllables, it will be spelled with three syllables;

and if *perspiration* be pronounced as if the first syllable were *pre*, it will be spelled in like manner.

4. A fourth means to correct spelling is composition. A list of words is assigned for a lesson; the recitation to consist of the correct placing of these words in sentences. This is a very useful means of teaching the orthography and use of words pronounced alike but spelled differently, and of different meaning. How often is the word *principle* used when *principal* is meant, and *vice versa*! So *cur-rent* is used for *cur-rant* and the reverse. The argument for teaching the spelling of words only in connection with their meaning applies especially to this class of words. The spelling of this examination paper should be carefully scrutinized and misspelled words noted. If it be understood that these errors will affect the standing, carelessness in spelling will be effectually done away.

5. Good penmanship is a most efficient teacher of spelling. Many a person writes a word poorly because he is not certain of its orthography, and his penmanship prevents detection. A misspelled word looks worse when well written than if only half scrawled. I have seen the word *to-ge-th-er* misspelled many times, but never did it look so utterly out of place as when it appeared in the round characters of a well-known writing teacher. A gentleman who stands high among the teachers of Wisconsin, in writing the diphthongs *ei* and *ie*, makes both letters exactly alike, and places the dot above and just half way between them. There is nothing to be insisted on more strenuously than plainness in writing. It will prevent attempted deception as well as a great waste of time.

6. Rules for spelling have a place among the means of teaching this art. Just what their relative importance may be, is a matter of opinion. Time spent in the mere memorizing of rules is time wasted. Yet this is just what many think to be their use. Their application to the spelling of certain classes of words may be very valuable, both as a means to correct spelling and a matter of discipline. The application of rules to the spelling of derivatives must be practised until it becomes habitual to the pupil, or the rules of no account. But there is a large class of words that is above all rules, and that defies all law. Such words as *deleble* and *indelible*; as *seige* and *seize*. The only way that I know to dispose of such words is to learn their spelling, just as the multiplication table is learned. They must be taken by force and compelled to submit.

7. Pupils should keep a list of all misspelled words, and from time to time review them. Of course the teachers will note all such words, and frequently bring them to the attention of pupils.

8. And last, but by no means least, let the habit of consulting the dictionary whenever any doubt arises, be formed as soon as possible—not an unwilling consultation, as is now usually the case, but a willing and cheerful search after truth. This habit cannot be overestimated. If it be once acquired, there is little fear that misspelled words will find a place in any composition.—*New York School Journal.*

## SUGGESTIONS TO TEACHERS.

### I. AS TO PREPARATION OF LESSONS.

Make each lesson which you assign a subject of careful study respecting the following points:

1. What is the connection of the topic with a preceding one? What divisions of the topic are desirable to make in teaching it? What are the dependences of the parts upon each other?
2. What does the lesson contain which will be new to the pupil—what definitions, operations, rules, explanations or principles? How are these best presented?
3. What difficulties does the lesson involve? What are some of the ways of treating them? What is the best way?
4. What are the most essential things to be had in view—the important points to be worked to—in the lesson?
5. What opportunity does the lesson afford for drill in numerical processes? What for exercise of memory? What for language training? What for development of the reasoning powers? What is the value of the lesson as a means of education?
6. What scheme or plan of work will best meet the requirements of successful teaching of the lesson?
7. Know your part perfectly. Know it in a broad and generous way.

## II. AS TO CONDUCTING RECITATIONS.

1. Provide occupation upon parts of the lesson for each member of the class. While some work at the blackboard, let those in the seats also have something to do. Keep the work moving all along the line.
2. Avoid wasting time on matters of little importance. Hold well to the essential points. Be on guard against division from main issues. Know your scheme thoroughly, and keep to it.
3. Consider each lesson a means, and each recitation an occasion of accomplishing certain definite educational results. Observe constantly how well those results are being realized. Do not work with eyes bandaged. See clearly all the time what is to be done, and how best to do it, and note the outcome.
4. Keep account of the progress of each member of the class. Be patient with those who, though they may not do as well as you desire, are yet doing as well as they can. With the lazy and indifferent your skill will need to be at its best.
5. Be attentive to the order of the class, to the manners of the pupils in recitation, to their language and to their advancement in every respect to which your work with them and personal influence may contribute. Remember your office is to teach, and not merely to hear lessons.
6. Do your work heartily. Do it in a live and vigorous way.

## III. AS TO ASSIGNING LESSONS.

1. Give the last five minutes of the hour to the assignment of the next lesson. Be judicious as to length of lesson assigned.
2. Direct attention to the most important things to be noticed in the preparation of the lesson.
3. Let a part of each day's work be a review of the important points of the lesson of the previous day.—*C. F. R. Bellows, in Educational Weekly.*

## MEETING OF THE AMERICAN FROEBEL UNION.

The first of a series of public conferences, to be held by the American Froebel Union, which are intended to review the work of Kindergartens in America, by the means of lectures and discussions by prominent men and women who are most interested in this work, and so help the success of the Kindergarten in this country, was held at New York recently. The meeting was called to order by Dr. Henry Barnard, of Hartford, Conn., who presided. On the platform was Thomas Cushing, the principal of the Chauncy Hall School, of Boston, and Miss E. P. Peabody, the president of the Union.

Miss Peabody began the conference by recounting the history, present condition, and aims of the Union, and said:

The first and last aim of our society is to make a high standard of training of the kindergartens,—not merely in the manipulation of the work, and the gifts of solids, planes, lines and points, by which technical and intellectual education is prepared for; but by the study of the three-fold nature of the child. Three years' experience has proved to us that the constitution at first adopted aimed at something we cannot compass, and which must be remitted to local societies, which can meet monthly for mutual instruction, and on which the responsibility of giving certificates to the good ones must rest. On the 9th of March, therefore, the life members, by person and by proxy, met, and remodelled the society, which in future will hold general conventions, only at longer intervals, at the discretion of the president; the next one, perhaps, not until April 21, 1882,—Froebel's centennial birthday. But the president shall receive the papers and reports of the local societies, and give all the thoughts of value brought forward in them in a volume called the "Annual Message," which each year shall be sent to all the paying members.

Thomas Cushing, lately of the Boston Chauncy Hall School, spoke of the operation of the Kindergarten in his school, and said it was, in his opinion, an efficient foundation to a perfect system of education.

Mr. Wm. T. Harris, Supt. of Public Instruction in St. Louis, Mo., gave an able paper, of which the following is a mere outline:

The lofty ideal of the disciples of Froebel,—the moral regeneration of the race,—may, it is true, be claimed by all educators; and the high-school teacher or the college professor comes into relation with the pupil when he has begun to demand for himself an explanation of the problem of life, and it is possible, for the first time,

at this age to lead him to insight. This example the teacher of the youngest pupils has; that she may give them an influence that will cause them to continue their education in after life.

It must be conceded that the age from four to six years is not mature enough to receive profit from the conventional and the disciplinary studies of the schools. But the child of four or five years is in a period of transition out of the stage of education which we have named "nurture." Through play the child gains individuality; through caprice and arbitrariness the child learns to have a will of his own. It is at this period of transition from life in the family to that of the school that the kindergarten furnishes what is desirable, and, in doing so, solves many problems hitherto found difficult of solution.

I have my own grounds for believing that the kindergarten is worthy of a place in the common-school system. It should be a sort of sub-primary education, and receive the pupil at the age of four or four and a half years, and hold him until he completes his sixth year. Besides the industrial training, there is much else in the kindergarten which is common to the instruction in the school subsequently, and occupies the same ground. There is instruction in manners and polite habits, and a cultivation of imaginary and inventive power. The cultivation of language is also much emphasized in the kindergarten.

The paper closed with a discussion of the practical conditions necessary for success,—expense, supply of teachers, duration of school hours, school furniture and other essentials.

Miss Peabody read a paper by Miss Anna Buckland, on "The Use of Stories in the Kindergarten."

Froebel notices that, of all the mental faculties, the æsthetic is one of the first to unfold in the mind of the child. The first perceptions of the child are of beauty. We find, therefore, in the kindergarten, that the means are provided by which the æsthetic faculty may be developed and trained to a keen perception of beauty in form, color, and sound, as well as in character and life. Artistic designs, lessons on form, combinations of colors, drawing, modelling in clay, flowers, and beautiful natural objects, music, poetry, and imaginative literature, are all provided as necessary to the correct education of the child.

Prof. Felix Adler made an address on the reasons why the children of the poor are in greater need of the kindergarten system than the children of the wealthy.

The children of the poor, most of all, need the humanizing influence at the age of children in the kindergarten. The kindergarten is more necessary to the poor than to the rich, because it develops the elements of skill. The poor need this kindergarten training most because they are less able to obtain an education than the rich. This fact ought to stimulate benevolent and charitable people to realize the good that may be done in this work.

Dr. E. B. Seguin, formerly of Paris, France, spoke of the necessity of keeping a strict watch upon the first impressions that are made upon a child's mind.

Professor Bachelor, of Boston, spoke on the "Analogies of Tone and Color," with an explanation of how little children are being taught music by the help of color.

E. A. Spring, of Perth Amboy, N. J., gave an address on "Modelling as an Occupation of the Kindergarten."

Little children, even as young as three years, will often make shapes in moist clay, and it might be called a natural process. Froebel used it as an essential part of his system of human development, and several simple exercises were given to render clear to the little child, during the kindergarten age, some of his most important principles. Froebel gave the children the clay ball and the cube. From these all the geometrical figures can be formed. The cylinder is the intermediary, and three steps are sufficient to carry the child from the ball to the cube. The details of modelling are not to be considered. One must preserve the spirit, and must pay attention to the arrangement of the general masses.

This closed the session of the Union. Miss Peabody said that it was not likely that another convention would be held before 1882.

## THE EDUCATION OF ENGLISH GIRLS,

English girls are taught—or were in my time—by a kind of system which tends to multiply "accomplishments" rather than useful knowledge. A certain routine of teaching is gone through, and you come out of the school-room with a society varnish intend-



ed to do duty until marriage, at which period custom allows you to dispense with surface accomplishments, and devote yourself to the realities of life, mitigated as they are for the well-to-do. On the other hand, the moral atmosphere of the English home education is superior to that of American education in general. Girls are less forward and more respectful; they grow into women more slowly and ripen better; they are physically stronger, and therefore have simpler tastes; and as to society, they do not know what it means before at least the age of seventeen or eighteen. American girls have certain advantages, however, which custom denies young Englishwomen of good position; they are not forced by an unwritten law to go into society and play their part in it, while the English girls have no choice. The "upper ten thousand" must marry or become "blue-stockings" before the world agrees to let them alone. A young married woman may, if she chooses, plead home duties as an excuse for a quiet, useful, pleasant, and studious life, uninterrupted by any but the necessary "county" civilities, which are not burdensome, but young girls are not supposed to have such duties. Parents, even when sick themselves, are loath to let the chances of the London season pass by their daughters, and depute any safe chaperon, the nearest female relation if possible, to take their girls to all the balls and parties. The rudimentary education furnished to women of the higher classes has perhaps something to do with the prevalence of "fastness" among a part of them, while to others it becomes the base of a real, later self-education, the growth of reading, observation, and thought.

—The puzzle of the period has its educational uses. It has been subjected to the scrutiny of several able mathematicians, and Professor Tait of Edinburgh has given his attention to the subject. At a recent meeting of the Edinburgh Royal Society, he read a paper on "The Theory of the Fifteen Puzzle," which is at present perplexing so many heads and fingers. The Professor began by stating that since he had given notice of his paper to the Council two papers had appeared in the *American Journal of Mathematics*, in which (as was only to be expected) most of what he had to say was anticipated. He showed that all the essential features of the puzzle were to be found in a board of four squares only with three pieces, say A, B, C. It would be seen that no possible motions could disturb the cyclic order of these—*i. e.*, they could only be a, b, c, or c, a, b, or b, c, a, and not anyone of a, c, b—b, a, c—c, b, a. Of the first three, anyone could be changed to another by two interchanges. Hence, all that was necessary in order to find whether a particular case of the puzzle could be solved or not was to find how many interchanges would bring it to the normal form. If that number be even, the problem was possible; if odd, impossible. Dr. Crum Brown had called those cases which were solvable Aryan arrangements. These involved an even number of interchanges; the others, or Semetic, an odd number. Any odd number of interchanges made an Aryan arrangement into a Semetic one, and vice versa. Hence, when they could not solve a particular case, they had simply to turn the 6 and the 9 upside down, and all was right. We hope that our readers after this will plunge among the figures with the certainty of immediate success, and that they will not have the smallest difficulty in disentangling either a Semetic or an Aryan arrangement.—*The Schoolmaster.*

## Notes and News.

### NOVA SCOTIA.

The Teachers' Association for the County of Cape Breton held its first meeting at Sydney, on June 30th and July 1st. A. McKinnon, Esq., Inspector of Schools, presided, with J. A. Armstrong, Esq., as Vice-President, and B. McKittrick, Esq., B.A., as Secretary-Treasurer. Seventy-one teachers enrolled their names as members of this Association. The President, after making a few introductory remarks, introduced Dr. Allison, Superintendent of Education, who expressed his pleasure at meeting such a large body of intelligent teachers, pointed out the advantages arising from such meetings, and encouraged those present to take an exalted view of their profession. He was followed by Mr. C. P. Moore, who read a carefully prepared paper on "School Management." The paper was discussed at some length by the members of the Association. Mr. M. McKinnon, M.A., then read an elaborate essay on "Teaching of Language." He advocated some sweeping reforms, some of which were endorsed by the Superin-

endent and others. Mr. J. A. H. Rindress opened the afternoon session with a valuable paper on "Discipline." He showed the importance of good order, and regarded the eye as the great controller of power. A very instructive illustrative lesson in "Algebra" was given by Mr. D. R. McLennan. During the day, the Rev. Messrs. Smith, Murray and McMillan visited the Association. On Wednesday evening the Temperance Hall was crowded to listen to an educational address by Dr. Allison. He traced the progress of education in Nova Scotia till the present time, and strongly urged every one to secure the best possible culture. The address was frequently applauded. Thursday morning's session opened with an "Oral Lesson in Arithmetic" by Mr. B. McKittrick, B.A., Principal of Sydney Academy. A very clear explanation of how to teach Notation and Numeration was given, and some general observations made upon the importance of this branch thoroughly taught in our public schools. This paper produced a very spirited discussion, in which a large number participated. Mr. J. N. Armstrong followed with an interesting paper on "Incentives to Study." To secure diligent preparation from pupils, he believed the teacher must study himself. Mr. C. W. Blackett read a well-written paper on "The Teacher's Rewards." While he believed that teachers should be well and promptly paid, he was convinced that one who regarded merely the "almighty dollar" was unworthy of the position. Rev. Messrs. Rendall, Coffin, Farquharson and Johnson responded to the invitation of the President, and gave excellent addresses. The programme being completed, general remarks were made by Inspector McKinnon, Principal McKittrick, Messrs. Rindress, Moore, Armstrong, Kennedy, Blackett and Morrison. The first meeting proved a most gratifying success, and the teachers expressed themselves greatly benefited by its discussions. The Association adjourned to meet at North Sydney, June, 1881.

The Encœnia of King's College for 1880 took place on June 24th, and passed off in a most successful manner. None of the more prominent personages who have in past years attended these exercises—to wit, the Lieut. Governor, General, Admiral, or Chief Justice—were present, but a goodly number of visitors of a lesser degree repaired to a certain extent, at least, any deficiency in that particular. The exercises were commenced as usual with divine service in the old Parish Church. The talented President of the College, Canon Dart, preached a most excellent sermon from Proverbs, chap. 4, 7th verse. At noon the convocation services commenced in the new Hall of the College. The room was well filled with the *élite* of Windsor and surrounding districts, while the platform was graced with a goodly array of "wealth, learning and respectability."

The President commenced his opening address with appropriate reference to the deaths that had occurred in the ranks of the College during the year. He spoke in feeling terms of the deaths of Professor Howe, John Hind, Rev. Dr. Cochran and Judge Bowman, and referred briefly to the services and talents of each of them. He alluded to the progress made since the last Encœnia, and stated that during the year the old library room had been converted into a laboratory and chemical lecture room.

The following students passed the required examinations for the Degree of Bachelor of Arts:

Rev. George Butler (Honors in Theology). F. W. Vroom (Honors in Classics). A. E. Silver, L. E. Brackin, W. C. Hind, and W. B. King.

The following prizes were then announced and distributed: Cogswell Scholarship, Rev. G. Butler. Binny Exhibition, Mr. G. R. Martell. McCawley Hebrew Prize, Rev. George Butler. The President's prize for English rhymed heroic verse, Mr. G. J. Peters. Hon. Senator Almon's Welsford Testimonial, Mr. F. W. Frith. General Williams' prize for Mineralogy and Geology applied to mining, Mr. M. A. Curry. General Williams' prize for Modern Languages, Mr. W. B. King. Stevenson Scholarship, Mr. H. Hensley. McCawley Classical Scholarship, Mr. F. W. Vroom. First Year Divinity Prize, Mr. F. W. Frith. Prize for Latin Verse, Mr. F. W. Vroom.

The following degrees were then conferred, with appropriate ceremonies:

#### MASTER OF ARTS.

James Liechti (*honoris causa*), W. J. Spencer (*honoris causa*), Rev. R. Smith, and Percy C. Scott.

#### BACHELOR OF ARTS.

J. O. Crisp, Halifax; W. H. Morris, Guysboro; F. W. Vroom, St. Stephens; T. R. Rutherford, Halifax; E. Jennings, Halifax.

Mr. Scott then read a portion of his essay, prepared for his Master's degree; Mr. Peters read his prize English poem, entitled "Montcalm"; and Mr. Vroom his prize Latin verses, all of which were warmly received.

Mr. Vroom ended his part of the programme by delivering an excellent valediction, in a very creditable manner.

Short and appropriate speeches were then made by Rev. Chancellor Hill, Hon. W. B. Vail, and his Lordship, Bishop Binny.

The closing exercises of St. Mary's College were held on the 16th of July, in the hall of that Institution. His Grace Archbishop Hannan presided. The proceedings were of an interesting character. Among the audience were Sir Edward and Lady Kenny, and many leading citizens. A new feature was introduced into the examination, viz.: the examination of classes in the Latin Classics. All the exercises were pronounced good. An address from the students to the Archbishop, as patron and visitor of the College, formed an interesting part. The Archbishop in replying thanked the students for their expressions of goodwill. He considered that never since its organization, more than forty years ago, had St. Mary's College been under the direction of a more efficient faculty than now. His Grace urged parents not to abridge unnecessarily the educational privileges of their children. He intimated that certain important improvements were in contemplation. The Rev. Canon Woods, an ex-president of the College, referred in very complimentary terms to the abilities and successful labors of the present staff of Professors.

The public exercises connected with the close of the annual session of the Provincial Normal School were held in the large assembly hall of the new edifice. A large audience was in attendance. Among other visitors were His Honor the Lieutenant Governor, the Superintendent of Education, several of the Provincial School Inspectors, and a large number of High School Principals and other teachers attracted to Truro by the Educational Association to open on the following day. Excellent music was furnished by a select choir of students. The teaching exercises by the pupil teachers were as follows: A class in Navigation by Miss Boner, of Shelburne; a class in Nova Scotian History by Miss Quinlan, of Shelburne; a class in Cubic Measures by Miss Dickie, of Truro; a class in Botany, by Miss Calkin, of Truro; A class in Chemistry, by Mr. Jos. Crone, of Colchester; a class in Agricultural Chemistry, by Mr. White, of Kings; a class in Arithmetic, by Mr. Beckwith, of Kings; a class in Geography, by Mr. Lewis, of Colchester. The style in which this practical work was done merited and received high encomiums. The Governor General's medals were presented by Governor Archibald—the silver to Miss Lewis of Onslow, the bronze to Miss Quinlan, of Shelburne. The subject of the competition essays was "The qualifications of a Teacher not included in the Syllabus." The Superintendent of Education stated that all the essays presented were exceedingly meritorious, and that between the two selected ones the difference was slight indeed. The Lieutenant Governor and Superintendent of Education made short addresses, congratulating the Principal, Professors, and Province on the successful work of the year. During the session closed, the attendance has reached its maximum, altogether 150 pupil-teachers have been enrolled, and the average attendance has been upwards of 100. Five Superior professional certificates have been awarded, to Misses Lewis, Boner, Calkin, Dickie, and Mr. Beckwith; 51 good certificates, and 26 fair, 83 in all.

Next month's notes will contain a full report of the Provincial Educational Association organized at Truro, on the 14th of July. The following is a list of officers, &c.: President—Dr. Allison, Superintendent of Education; Secretary—A. McKay, Esq., Principal Dartmouth High School; Assistant-Secretary—B. McKittrick, Esq., B.A., Principal Sydney Academy; Executive Committee—Dr. Allison, *ex officio*; Principal Calkin, *ex officio*; Inspector Gordon, Inspector Roscoe, Prof. Eaton (Normal School); Miss Hamilton (Halifax); Miss Newcomb (Cornwallis); Principal McKay (Picton); Principal McKay (Dartmouth.)

#### NEW BRUNSWICK.

Our first item this month is the Encoenia of the Provincial University, particulars of which were not given in the July number. The customary oration in praise of the founders was delivered by Prof. Rivet, after which Mr. A. W. Wilkinson, of the Senior Class, read a portion of his prize essay on "The importance of increased attention to Agriculture." A portion of the Latin essay which won the Alumni medal was also read by its author Mr. John S. Harrison. The degree of B. A. was conferred on sixteen young men, the first three of whom were A. W. Wilkinson of Fredericton,

J. M. Palmer of Gagotown, and H. B. Pickard of Fredericton. The latter has since undergone examination for the Gilchrist scholarship. Jas. R. Mace, B.A., 72, Principal of the York street Schools, Fredericton, received the degree of M.A. A new and interesting feature in the proceedings was the delivery of a valedictory address on behalf of the graduates of last year, by J. Douglas Hazen, B.A., '79.

Mr. G. Herbert Leo, M.A., delivered the Alumni Oration. It was announced that the subject for the Douglas Essay next year would be "The Prosperity and Fall of Venice."

The officers of the Alumni Society for the ensuing year are:—

President—Alfred B. Atherton, M.A., M.D.

Vice-Presidents—Loring W. Bailey, Ph. D., Rev. Chas. Paisley, M.A., Henry S. Bridges, M.A.

Secretary and Treasurer—James A. Vanwart, M.A.

Members of Council—F. E. Barker, M.A., D.C.L., Rev. G. G. Roberts, M.A., G. R. Parkin, M.A., G. H. Lee, M.A., Edward L. Wetmore, B.A., Wm. Pugsley, M.A., B.C.L., and Wm. Crocket, M.A.

Representatives to the University Senate—Wm. Pugsley, M.A., B.C.L., and Fred. E. Barker, M.A., D.C.L.

In the City of St. John and in Portland, the summer vacation commenced on the 7th July,—elsewhere throughout the Province, on the 12th.

The annual examination and presentation of prizes at the St. John Grammar School was an interesting occasion as usual. Under the popular Principal, H. S. Bridges, M.A., and his coadjutor W. M. McLean, B.A., the school is said to be doing excellent work. The Corporation gold medal for classics was presented to Master Wilmer Duff, the Parker silver medal for mathematics to Master Mark Henderson, the Lorne bronze medal for English, to Master Herman Peiler, and prizes of books to eight other boys, for proficiency in various departments.

In the Leinster street school (D. P. Chisholm, Principal), in the Albert school, Carleton (John Montgomery, Principal), and in other schools in the city, the closing exercises drew numbers of interested visitors.

The High School at Fredericton was examined on the 9th July, in presence of numerous visitors. An interesting feature in the exercises was the reading of several of the pupils' essays. The Douglas silver medal for proficiency in the classics, and the Lorne bronze medal for highest general standing were both awarded to Master James M. Lemont, who was highly complimented, Master Owens received a prize of books for proficiency in mathematics. The staff of teachers in this school consists of G. R. Parkin, M.A., Principal, G. W. Fenwick, B.A., J. T. Horsman, B.A., and Miss L. J. Gregory.

The Carleton County Teachers' Institute met at Woodstock on the 24th and 25th of June, with an attendance of about fifty teachers. Inspector Gaunce was elected President, W. B. Wiggins, B.A., Vice-President, and Chas. McLean Secretary-Treasurer. Several valuable papers were read, and the discussions were lively and profitable. Music introduced at intervals added interest to the sessions. The evening session was largely devoted to singing, recitations and impromptu speeches. Perhaps there was rather too much of the *dulce* in proportion to the *utile* at this institute, but on the whole, the teachers seem to have been well pleased with their two-days re-union.

The Charlotte County Institute met at St. Stephen on the 8th and 9th of July, and after opening speeches by several gentlemen, elected the following officers:—Inspector Oakes, President, Jas. Vroom, Vice-President, Jas. D. Lawson, Secretary-Treasurer, J. B. Bogart, Assistant Secretary. About seventy teachers were enrolled as members. Mr. Lawson read a paper on "The best means of applying the official course of instruction in ungraded schools," which was followed by an animated discussion, bringing out several of the practical difficulties experienced by teachers, and eliciting from the inspector satisfactory replies to a variety of questions. Misconceptions were corrected, and objections explained away, to an extent that perhaps surprised some who are not happy unless discontented. Other papers read were on "The influence of the Teacher on the school," by Mr. W. Camp, on "The place of Natural Science in the School Curriculum," by Mr. Bogart, and on "School Discipline," by Mr. G. J. Clarke. The teaching of the text book in Geometry was the subject of a paper by R. H. Lyle. Vigorous discussions followed the several papers. There were also practical lessons on colour and primary reading. At the evening session, specimens of the manual work of pupils were exhibited and criti-

cized. At some of the sessions, a choir favored the institute with music.

The Kent County Institute met at Kingston at the same time as that of Charlotte. About forty teachers were present. The officers elected were Geo. A. Coates, President, Daniel Gillis, Vice-President, C. H. Cowperthwaite, B.A., Secretary-Treasurer. We have not seen a very full report of the proceedings, but we learn from the *St. John Telegraph* that the following subjects were discussed, some being introduced by written papers:—"Are Educational Institutes a success?" "The Scope and Method of Lessons on Health as required by the course of instruction." "The Essentials of Good Order in schools." "Means of Mental and Moral Culture," a lesson on Geography, the Elementary Rules of Arithmetic, the Merit Book. As at Fredericton and St. Stephen, samples of manual work from the schools of the town were distributed for inspection by the assembled teachers. The work of this institute was held to be eminently practical and useful.

On the same days the King's County Institute met at Hampton. The teachers present numbered sixty, Inspector Wetmore was re-elected President, J. H. Wright, Vice-President, and Wm. Levinge, Secretary-Treasurer. The last named gentleman seems to have taken a prominent part in the work of the institute, giving two papers and an oral lesson, the subjects of which were respectively "How the study of Plant Life may be made interesting in school," "Industrial Drawing," and "Atmospheric Pressure and the Barometer." Mr. F. H. Hayes introduced the subject of Written Examinations; and one fact brought out in the subsequent discussion was that many teachers found great difficulty in getting their pupils to procure the necessary paper for such work. A paper on singing, by Miss Brown, and a lesson on Form, by Miss Bennet, were also on the programme. In the evening the Chief Superintendent, Dr. Rand, delivered a public address, of which we clip from the *Telegraph* the following account.

The speaker commenced his subject by pointing out the obligations and duties of parents in reference to the education of their offspring, calling attention to the fact that a true index of the greatness of a country may be had in the men that it produces. The kind of education that our country requires, he remarked, is that which will produce men and women capable of bringing themselves under the control of the will. He then took up the "Course of Instruction" for the Province, and the new regulations for school inspection. The criticisms passed on these throughout the Province were fully dealt with. He proceeded to show the relation that should exist between teachers, trustees and parents, the waste of force attending a frequent change of teachers, and the consequent loss to the community. These and other matters connected with the Institute brought the address of the chief superintendent to a close, when a vote of thanks was tendered him by the Institute.

The St. John County Institute also was in session on the same days, in the Exhibition Hall of the Victoria School. At the opening session Dr. Rand was present, and addressed the Institute by request of the President. The election of officers resulted in the choice of Inspector Dole, as President, Mr. G. U. Hay as Vice President, and Mr. J. M. Coyngraham as Secretary Treasurer. A large amount of time was consumed on the first day in discussing points of order, and modes of procedure, the only practical questions taken up being "The place Latin should occupy in the School Work," and the teaching of colour to children. The discussion of the latter was continued the next morning, mixed up with further discussion on matters of routine, etc. Mr. W. H. Parlee read a paper on "The place of written examinations in the schools," arguing strongly in favor of written examinations. The subject was afterwards discussed at some length, *pro* and *con*, by members of the Institute, Dr. Rand, who had returned, also taking part. There was also conversation as to the Province of the Teachers' Institute and of the Educational Institute respectively, Dr. Rand pointing out that the latter was the place to discuss such matters as the course of instruction, text books regulations of the Board of Education, etc. Mr. McGinnis read a paper on Canadian History, Mr. Coyngraham one on Drawing, Mr. Hay on "The beneficial effects of Museums in connection with High Schools." The four institutes meeting simultaneously exchanged friendly greetings by telegraph.

At the Chatham Grammar and High School, the midsummer examination took place on 9th July. Three pupils received certificates of graduation, one of whom, Master Ernest McKay, the winner of the Lorne medal for highest school standing, delivered a valedictory address. Other prizes were carried off by Thomas Narquis, Wm. Kerr, and Dicie Davidson.

The Educational Institute for the Province met in the Normal School Building at Fredericton, on Tuesday afternoon, the 13th July. This body, it will be remembered, is not a voluntary association of teachers, but is organically connected with the School System, and works under a simple constitution established by the Board of Education. The same is true of the county institutes. Membership is voluntary; Any member of a County Institute and any public school officer may become a member of the Provincial Institute by payment of a small annual fee. The objects in view are "the professional instruction and culture of its members, and the discussion of educational questions." While there is large liberty in discussion, the right of recommending or excluding questions for consideration by the Educational Institute rests, exclusively with the Executive Committee, one half of whose members are permanently appointed *ex officio* by the Board of Education, and the other half are elected annually by the members of the Institute. Many at the recent meeting seemed to be ignorant of these facts.

The meeting occupied three days, and several of the sessions were very protracted. About 120 members were enrolled, but a large number of teachers and others were in attendance, some not qualified for membership, and others who preferred to share in the benefits rather than the burdens. Dr. Rand, Chief Superintendent of Education, presided over all the sessions. Mr. F. C. Croed, M. A., was re-elected Secretary, and Mr. J. D. Lawson was elected Assistant Secretary. At the last session but one, the elective members of the Executive Committee were chosen by ballot, viz.: S. C. Wilbur, B. A., of Moncton, H. S. Bridges, M. A., of St. John, G. R. Parkin, M. A., of Fredericton, J. A. Freeze, B. A., of St. Stephen, A. J. Denton, B. A., of Shediac, and John Montgomery, of Carleton.

Our space will not allow us further to detail the proceedings of this important assembly at present.

#### QUEBEC.

The chief interest throughout this Province in educational matters during the latter part of June and the beginning of July, especially in our towns and cities, is centred in the closing examinations for the scholastic year before the midsummer holidays in our Normal school, Academies, and Commissioners' Schools, and in the awarding of Academic honors and prizes.

In the Normal School, diplomas are granted to successful candidates, Academy, Model School, or Elementary, as the case may be. All these institutions are year by year advancing in efficiency, increasing in numbers, and attracting more and more the attention and support of the public as well as of advanced educationalists and lovers of learning generally.

Rewards for proficiency in the different branches taught are now becoming quite numerous in the shape of gold, silver and bronze medals. These are eagerly competed for, and form a strong stimulus to exertion and study on the part of the pupils. At the closing exercises of these Institutions there is a large attendance, especially in the city of Montreal, of the parents and public generally. In all that pertains to the instruction of the young, there are several men of distinction in that city who encourage in every way by their presence and speeches the schools of all grades, such as Dr. Dawson, Dr. Jenkins, Dr. McVicar, Dr. Robins, Canon Norman, &c.

Dr. Howe, Rector of the Montreal High School, stated in his Annual Report, that the result of written examinations showed better answers than formerly, that in the 3rd or lowest form, each division averaged an attendance of 35, the 4th 34, the 5th large, and that the 6th promised to be good for next session; that outside, the year had been marked by more than usual success; as in the graduating class of McGill College, out of 4 gold medals, three had been taken by High School boys; in the third year under graduating class, a High School boy of 1878 carried everything before him.

Master Gnaedinger, the 3rd boy of the 6th form, received the Murray silver medal, very handsome in design and workmanship, and Master Cahoes, of the same form, received the Murray bronze and the Lorne silver medal. Master Bluckader was the High School gold medallist.

In the Quebec High School, Master Ross gained the Lorne silver medal for classics, and Master Dunbar the Fry silver medal for English.

In the High Schools of Montreal and Quebec there have been for some time preparatory departments doing excellent work.

Principal Hicks presided at the annual distribution of prizes in the McGill Normal School. Beside him on the platform were

Doctors Dawson, Robins, Stephens, Sullivan, McVicar, Messrs. Lunn, Peter Redpath, and others. There was a large attendance of pupils with their parents and friends, and much interest was manifested in the proceedings.

The Rev. Canon Norman, M. A., D. C. L., examined lately the pupils in the Mackay Institute for deaf mutes, and reported most favorably on the system of teaching pursued and on the diligence and success of the pupils. The most advanced pupil, Master John Macnaughton, Quebec, can write English accurately and with taste, is a very good draughtsman in more than one style, and possesses a very creditable acquaintance with Scripture, English History and Geography. The proceedings wound up with a touching parting address by Master Macnaughton, by means of the sign alphabet, and by the hymn "Rock of Ages," given in signs by all.

The annual meeting of the Teachers' Association in connection with McGill College Normal School, was held lately in the Normal School Hall, Dr. Kelly in the Chair. There was a large attendance of city teachers. The secretary reported that over thirty additions had been made to the roll of membership, and referred to the very great interest manifested during the year in educational work. Reference was also made to the grand gathering of teachers in Quebec and to the very successful conversazione held in the month of March. The treasurer reported all debts paid and a balance in the treasury. The election of Officers for the ensuing year then took place and resulted as follows: President—Dr. Robins; Vice-Presidents—Dr. McGregor, Principal Hicks, the Rev. E. J. Rexford, and Miss Carmichael; Secretary—Mr. Campbell; Treasurer, Mr. Parsons; Council—Dr. Kelly, Professor Hicks, Messrs. Rowell, Keeland, McKeocher, Pierson, Mrs. Fuller, and Misses Clarke, Derrick and Richardson.

Mr. Frank W. Hicks, Secretary to the Association of Protestant Teachers, has issued a circular announcing that the 17th annual convention of the Provincial Association of Protestant Teachers of Quebec Province will be held in Montreal on the 21st and 22nd of October next. Those who intend to read papers or to propose subjects of discussion are requested to notify the secretary as soon as possible, in order that the programme of proceedings may be arranged a short time before the meeting.

Copies of the report of the convention held at Quebec, in October last, may be procured, price twenty-five cents, from the secretary, and from Dawson Bros., Drysdale & Co., and J. O'Loughlin, booksellers, Montreal. The report extends to 135 pages, and contains the record of proceedings and all the papers read at the last meeting.

A grant of \$500 per annum has just been made by the Provincial Government for the support of an English Journal of Education.

#### MANITOBA.

The Public Schools of the Province have just closed for the summer vacation. During the past week the examinations of the city schools have been in progress. They have been entirely in writing. The examiners were S. C. Biggs, B.A., Inspector of city schools, and Rev. Professor Hart, M.A., and the results reflect the highest credit upon teachers and scholars. Winnipeg has every reason to feel proud of her public school system. Her first public school was opened in 1871. It was held in a log building with a thatched roof; the teacher was W. F. Luxton, the present editor of the *Manitoba Free Press*, and the number of scholars about twenty-six. Now there are three public schools, two of them handsome buildings, and the third is being replaced by a building, now in course of erection, which will be quite equal to the other two. There are ten classes, and an average attendance of about 500 pupils.

On July 15th the school children and their friends assembled at the City Hall, to hear the results of the recent examinations, and to witness the distribution of prizes. The chair was taken at 8 p.m. by Mr. Malory, acting chairman of the Public Board of School Trustees. The Rev. W. Cyprian Pinkham, Superintendent of Education, Rev. Prof. Hart, Rev. J. Robertson, Mr. Biggs, and several members of the Trustee Board, occupied seats on the platform. The Chairman having made a brief introductory speech, Mr. Biggs, assisted by Mr. Ferguson, Principal, then presented the prizes. W. Agnew received the following special prizes:

Chambers' Miscellany in ten volumes, from Messrs Parsons & Richardson, for the best essay on "The Advantages of Education."

Mr. C. R. Tuttle's gold medal for general proficiency, and a prize from Mr. Ferguson, the Principal, for map and linear drawing.

Miss Wright, the senior teacher of the North Ward School, received from her pupils a very handsome silver card basket.

After the presentation, brief and appropriate speeches were made by the Superintendent, the Inspector, the Principal, and Revs. Professor Hart and J. Robertson, and the last named gentleman brought the meeting to a close by pronouncing the benediction.

The examination of teachers commences on 10th August. The Board of Education has recently decided to have only one examination a year, viz.: the August examination, and to hold it for the present in Winnipeg.

The following gentlemen have been appointed Inspectors for the current year:

The Rev. W. R. Ross, M.A., Rev. A. Matheson, Rev. J. Douglas, Rev. Mark Jukes, Wm. Hespeler, for Mennonite schools, and A. M. Sutherland, B.A.

The Superintendent of Education for Protestant schools inspects the schools in the immediate vicinity of Winnipeg.

W. H. Culver, B.A., has been placed on the Board of Examiners, instead of the Rev. J. F. German, M.A., who has left the Province.

### Readings and Recitations.

#### THE SCHOOL-ROOM.

#### FOR FRIDAY AFTERNOONS.

#### THE FARMER WHO BECAME DRUM-MAJOR.

*Peggy and Meggy tell the Story in their own way.*

By JOEL STACY.

NOTE.—The success of the following recitation will depend upon the vivacity and piquancy with which the two little girls tell the story. If they narrate and supplement and confirm and contradict and agree as if they really meant it, they will gratify their audience.

- Peggy*: Our father worked upon a farm,  
He wore a linen smock;
- Meggy*: 'Twas gathered to a yoke on top,  
And hung down like a frock.
- Peggy*: Oh, he was very meek,  
And mother used to scold him,
- Meggy*: And he would always do,  
Exactly what we told him,—
- Peggy*: *Ex-actly* what we told him.
- Meggy*: His shoulders had a little stoop  
Which mother tried to cure;
- Peggy*: She used to say his shambling walk  
She scarcely could endure.
- Meggy*: But he played the fiddle well,  
And sang on Sunday sweetly;
- Peggy*: He beat the time for all,  
And knew the tune completely,—
- Meggy*: Yes, knew the tune *com-pletely!*
- Peggy*: When mother called, "Come, John!" he came,  
And smiling chopped the wood;
- Meggy*: He drew the water, swept the path,  
And helped her all he could.
- Peggy*: He used to romp with Meg and me,  
*Meggy*: Yes, and with Polly Wentels,
- Peggy*: But oh, my sakes! That was before  
He put on regimentals!
- Meggy*: Yes, put on regimentals!
- Peggy*: For, oh, a big militia man,  
One evening after tea,
- Meggy*: Came in and coaxed our father dear  
To join his company.
- Peggy*: For men were very scarce  
That summer in our village,
- Meggy*: And so they all prepared  
They said for war and pillage.
- Peggy*: Just think! for war and pillage!

Meggy . Well, after that he dropped the smook,  
He stood up stiff and straight ;  
Peggy . And when we called for wood and things,  
We always had to wait.

Meggy . Still he was rather meek,  
And mother still could scold him ,  
Peggy . He nearly always did  
Exactly what we told him, —  
Meggy . *Ex-actly* what we told him.

Peggy : But soon he had a big mustache,  
He stalked about the farm ;  
Meggy : He went to drill three times a week,  
And couldn't see the harm.

Peggy : At last he told our mother  
A thing that did enrage her.  
Meggy . "*Ri-dic-u-los !*" she said,  
" For you to be *drum-major !*"  
Peggy . For him to be *drum-major !*

Meggy . He wore a splendid soldier coat,  
He bore a mighty staff ;  
Peggy : But oh, he lost his gentle ways,  
And wouldn't let us laugh.

Meggy : He grew so very fierce  
He soon began to scold us,  
Peggy . And then we had to do  
Exactly what he told us !  
Meggy . *Ex-actly* what he told us !

Peggy . We used to run and hide away  
Meggy . You did—not I, dear Peg !  
Peggy . Why, yes, you often did it, too.  
Now don't deny it, Meg !

Meggy : He scared us 'most to death,  
He walked just like a lion ;  
Peggy : And when he coughed out loud  
He set us both a-cryin' !  
Meggy : Yes, set us *both* a-cryin' !

Peggy : He wouldn't play, he wouldn't work,  
The weeds grew rank and tall ;  
Meggy : The pumpkins died ; we didn't have  
Thanksgiving Day at all.

Peggy . The farm is spoiled. It isn't worth.  
Ma says, a tinker's wager.  
Meggy . Now wasn't it a dreadful thing  
For him to turn *drum-major* ?  
Both . A savage, awful, stark and stiff, ridiculous *drum-major* !  
—*St. Nicholas for April.*

### 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.

RUSSELL TEACHER'S ASSOCIATION.—A semi-annual meeting of the Russell Teachers' Association was held in the village of Cumberland on the 11th and 12th of June. About forty teachers were present. Rev. T. Garrett, B.A., President, in the chair. Rev. Mr. May, I.P.S., Carleton, was also present and took part in the discussions. The following papers were read and discussed: "Geometry," Chas. McCutcheon; "How to Teach Writing," Samuel McCusker; "Mental Arithmetic," Miles G. Ross; "Organization of a Mixed School," J. Belanger; "The Use of History," John McCutcheon; "Drill and Calisthenics," Rev. T. Garrett; "Elementary Grammar," F. R. Pratt. These were all excellent papers, and elicited very lively discussion. J. Houston, M.A., Head Master of the Hawkesbury High School, took part in the debates, rendering very valuable assistance to the Association. The officers elected for next year are: Rev. T. Garrett, President; Mr. J. H. Hill, Vice-President; N. G. Ross, Sec.-Treasurer; Management Committee—Messrs. J. Belanger, F. R. Pratt, Wm. McCutcheon, Wm. Bruntin, and Joachim Jouvant. An entertainment in connection with the Institute was held on Friday evening, when the Rev. J. May delivered a lecture on Education to a large audience. He deprecated the undue length of the school programme of studies, and the prevailing system of *cram*. His views seemed to meet with the hearty approval of all present. After the lecture came several recitations by Messrs. Williamson, Pratt, and others, and then the crown-

ing event of the evening in the form of a presentation to the worthy Inspector of the county, the Rev. Mr. Garrett. The address, a highly complimentary and affectionate one, was read by Mr. F. R. Pratt, Mr. N. G. Ross presenting a beautiful gold watch and chain at the proper moment. Mr. Garrett was evidently taken by surprise, but managed to express his recognition of the loyal kindness and respect which prompted this action on the part of the teachers under his charge. Few Inspectors have done more for education than Mr. Garrett; and it is pleasing to note that his services are appreciated by those most competent to estimate them at their true value. The proceedings terminated with the National Anthem.

NILES G. ROSS, Sec.-Treas.

WATERLOO.—Central School, Berlin, Friday, Sept. 10th, 1880, at 10 o'clock a.m. Programme.—First Day.—1. Reading. Subject continued from beginning of Second Book, Dr. D. K. Erb; 2. Arithmetic, Subject continued from beginning of Multiplication, Mr. G. A. McIntyre; 3. How to Teach History, Mr. Thos. Pearce, I.P.S.; 4. Essay, Miss C. A. Jones; 5. Physical Culture, Mr. P. H. Green; 6. Mathematical Geography, Mr. D. Marshall; 7. Selection of Subjects for next Promotion Examination. Second Day.—1. How to Teach Grammar from the beginning, Mr. Geo. Sharman; 2. Report of Delegate to Provincial Teachers' Association; 3. How to Teach Music, Mr. J. W. Groh; 4. How to Deal with Indolent Pupils, Mr. Wm. Scott, B.A., Head Master Toronto Model School; 5. Should the Minister of Education acquire the Copyright of all Text Books, Mr. W. T. Biggs; 6. Memory, How to Train it, Mr. Wm. Scott, B.A.; 7. Reception of Managing Committee's Programme for next meeting and the Report of the Library Committee. Sufficient time (to be selected by the Association) will be devoted each day to general business and the Question Drawer.

W. F. CHAPMAN, President.      GEO. STEVERNAGEL, Secretary.

### MAGAZINES.

THE ATLANTIC MONTHLY for August contains an instalment of "The Still-water Tragedy," which continues to grow in interest; "Sicilian Hospitality," "Kintu," "The Surgeon at the Field Hospital," "Mr. Hunt's Teaching," "Peppaton, a Summer Voyage," "The Archbishop and Gil Blas," by Oliver Wendell Holmes, "Sylvia's Suitors—a Little Episode," "Among the Pueblos," "Edward Mills and George Benton," by Mark Twain, "Alion Sin," "The Preceptor of Moses," "An Englishwoman in the New England Hill Country," "The Reed Immortal," "Taurus Centaurus," "The Republicans and their Candidate," "The Contributors' Club," and a number of brief and readable book reviews. One hundred and forty-four pages of excellent reading.

CORPORAL PUNISHMENT.—A very large majority of the pupils of the public schools can be governed by moral suasion. The parents know it; teachers fully recognize it, and would scarcely consent to teach if it were not so. As a rule, also, the best teachers have the fewest cases of corporal punishment, often managing their school for weeks without an instance of it. Yet these same best teachers attribute their success in part to the fact that they have always had the power to maintain their authority by physical means, if intellectual and moral arguments failed. Undoubtedly, the easiest thing for a teacher to do with an unruly pupil is to suspend him. Then, for a month, if no longer, he is rid of all trouble from him. This effectually sets him back into the next grade, because he gets behind all his classes, and probably so thoroughly discourages him that he stays out of school altogether. Of course the school is purified. After a time none but those who scarcely need a teacher to instruct them in good behavior remain, and all is lovely. "The well need not a physician." The physician in this case being paid a salary, is not concerned about the loss of his patient.—*Inter-Ocean, Chicago.*

—"You may succeed in life without learning anything about the subject," said a teacher to a careless pupil, "but you can never accomplish anything useful without a habit of diligence." What branches the pupil is studying is of less importance than the manner in which he pursues them. It is well to have the instruction in our schools as "practical," as closely connected with the activities of life as possible, but any course of study, faithfully followed, will tend to form two habits more important in a citizen, obedience to law, and diligence in business. Of him who wanders aimlessly among elective studies it may truly be said, "Unstable as water, thou shalt not excel."

The work on blackboards should be erased as little as possible while the school is in session. The breathing of the chalk dust, filling the room from the boards, is said to be a most active excitant of bronchial and pulmonary affections.